

Severe Damage by Alfalfa Aphid Noted in Many States

Infestations Now Heaviest in Midwest, Southwest Fields

— See Map on Page 4 —

WASHINGTON—Heavy damage by the spotted alfalfa aphid is showing up in many areas of the U.S., the Agricultural Research Service of the U.S. Department of Agriculture notes in its current Cooperative Economic Insect Report.

Heaviest current infestations are in southern Utah, southern Arizona, the southern two-thirds of New Mexico, central and north Texas, Oklahoma, southeastern Kansas and southwestern Missouri.

The aphid has been found east of the Mississippi river for the first time this year, in Alachua County, Fla., and has also spread to additional counties in Louisiana, Texas, Oklahoma, Kansas and California. It caused economic damage in this country in 1954 for the first time, costing alfalfa growers an estimated loss of at least \$5 million. The aphid was at first confused with the yellow clover aphid, which it closely resembles.

In Logan and Lincoln counties, Oklahoma, according to the report, damage continues heavy to severe, but aphid populations have been greatly reduced in many fields by natural predators and lack of food. Scattered fields in Pottawatomie and Okmulgee counties show light to heavy damage. Damage in Oklahoma has been much more serious than last year, with 35% of the fields in the

(Continued on page 8)

Deliveries of Potash Salts Show Decline in First Quarter

WASHINGTON—A total of 1,114,439 tons of potash salts containing an equivalent of 656,580 tons of K_2O was delivered during the first quarter of 1956 by the seven major American producers, according to the American Potash Institute. This represents a decrease of nearly 3% in salts and K_2O under the corresponding period in 1955.

Deliveries for agricultural purposes in the United States, Canada, Cuba, Puerto Rico and Hawaii consisted of 1,021,766 tons of potash salts equivalent to 599,643 tons of K_2O as compared to 626,630 tons K_2O in the first three months of 1955.

Muriate of potash predominated with 561,538 tons K_2O , whereas 37,598 tons were delivered as sulphate of potash and sulphate of potash-magnesia, and 507 tons as manure salts.

Deliveries for chemical purposes totaled 55,317 tons of salts equivalent to 34,319 tons K_2O , an increase of 22% in salts and K_2O over the corresponding period a year earlier. Exports to other than institute countries amounted to 37,356 tons of potash salts containing 22,618 tons K_2O , an increase of 17% in K_2O over 1955.

Potash Deliveries

Short Tons K_2O			
U.S., Canada, Cuba, Puerto Rico, Hawaii			
	January-March 1956	January-March 1955	
Muriate	561,538	591,010	
Manure Salts	507	518	
Sulphate and Sul.			
Pot. Mag.	37,598	35,102	
Total agricultural	599,643	626,630	
Chemical Potash	34,319	28,191	
Exports (other countries)	22,618	19,353	
Grand total	656,580	674,174	

USDA Maps \$1 Million Attack On Medfly; Industry Groups Support Proposed Quarantine

By JOHN CIPPERLY

Croplife Washington Correspondent

WASHINGTON—The U.S. Department of Agriculture plans a million dollar additional attack on the onset of the Mediterranean fruit fly infestation in Florida, according to information made available to Croplife here from the office of Sen. Spessard Holland (D., Fla.). His assistants said that he will try to put this appropriation through this session of Congress.

This money will not mean any invasion of private chemical industry trade channels. It will represent a spot cooperative effort on the part of the Florida citrus industry, the state government of Florida and USDA.

Some large part of this appropriation—now indicated as probable—will be spent by USDA for pesti- cidal chemicals to check the Medfly not only through sprays but also through soil insecticides, to the extent that later USDA surveys indicate that such latter use may be made effectively.

Last week USDA issued a statement that the Medfly had been seen in a 20 square mile area in Florida, largely in Dade County.

This statement is preliminary and not conclusive since USDA technicians have not completed their trap studies of the Medfly infestation. It will take an additional week or ten days to nail down the area of infestation before USDA can prepare its full attack on this pest.

This means that until that decision has been reached it will be unable to decide on the use of soil insecticides for this problem.

Prior to its conclusive evidence on the areas infested within Florida, USDA now plans a quarantine within two weeks which would halt the movement of produce from an infested area into other parts of Florida or to other states.

This program has the endorsement of the Florida State Plant Board and (Continued on page 21)

Best Fertilizers Building \$1 Million Addition to Plant

OAKLAND, CAL.—The Best Fertilizers Co. has announced a new million dollar expansion of its fertilizer plant located near Lathrop, Cal., in San Joaquin County.

Lowell W. Berry of Oakland, president of the company, said that construction has started on the new addition which will produce 200 tons of sulfuric acid per day.

Much of the acid will be used in the fertilizer plant in the processing of phosphates and ammonia, and in the manufacture of ammonium sulfate, ammonium phosphate, and other fertilizer compounds which are turned out in granular form.

The plant being installed consists of equipment to burn sulfur to sulfur dioxide, SO_2 . This in turn goes through a catalytic bed, is converted to SO_3 , and this in turn is absorbed in a dilute sulfuric acid stream to form concentrated sulfuric acid, H_2SO_4 . Concentrated sulfuric acid will be available to the farm community and to industrial users.

The company has as a by-product of the combined operation an annual production of 30,000 tons of high grade gypsum, which is used extensively as a soil conditioner throughout northern and central California.

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Carolinas-Virginia Pesticide Group Hears Talks on Dealer Training, Product Development

By LAWRENCE A. LONG
Editor of Croplife

MYRTLE BEACH, S.C.—Speakers appearing at the third annual meeting of the Carolinas-Virginia Pesticide Formulators Assn. placed strong emphasis on sales training, on the importance of sound cost accounting practices and on keeping pace with new products being developed for the control of insect pests and plant diseases. The meeting, held at the Ocean Forest Hotel here May 7-9, attracted pesticide formulators from a wide area.

In a morning session on May 8, L. D. Carter, Esso Standard Oil Co., Columbia, S.C., underlined the necessity of training and educating dealers who handle the products of the pesticidal trade and upon whom lie the responsibilities of answering

customers' questions about the merits of various materials.

Mr. Carter, who is director of employee training at Esso, described some of his personal experiences in attempting to purchase the correct pesticide for a specific use in his garden. He declared that the labels on various products are often too confusing for a layman to comprehend, and that too frequently the persons selling such materials know little about the correct uses and limitations involved. When trying to decide between two similar pesticides, Mr. Carter said he asked the clerk what the difference was between the competitive products. The reply was "35¢."

"The pesticide industry should give more consideration to the 'do-

(Continued on page 20)

Miller Amendment Extensions Granted

WASHINGTON—Federal Food and Drug Administration has extended the effective date of the Miller Amendment for two pesticides.

The effective date for use of octamethyl pyrophosphoramide in or on walnuts has been extended to June 15, and the effective date for use of trichloroethane as a grain fumigant was extended from March 1 to July 22.

India Receives ICA Pesticide Authorization

WASHINGTON—International Cooperation Administration last week allotted \$486,000 to India for the procurement of agriculture pesticides for filaria control. This procurement will be carried out through the General Service Administration emergency procurement facilities through Dec. 31, 1956.

Sulfur Output

WASHINGTON—The domestic sulfur industry produced 476,313 long tons of native sulfur and 37,100 tons of recovered sulfur (of a purity of 97% or greater) during February, according to reports of producers to the Bureau of Mines, U.S. Department of the Interior.

Fertilizer Grade Hearing Scheduled In North Carolina

RALEIGH, N.C.—A conference for consideration of the 1956-57 fertilizer grade list will be held in the Agriculture Bldg., Raleigh, starting at 10 a.m. May 29, according to an announcement by John L. Reitzel, assistant commissioner of agriculture for North Carolina.

Findings and recommendations decided upon at the meeting will be submitted to the North Carolina Board of Agriculture for action.

In connection with the upcoming conference, R. L. Lovvorn, director of research, North Carolina State College School of Agriculture, has written the following letter to Mr. Reitzel:

"The North Carolina State College Experiment Station has very few recommendations to alter the fertilizer grade list from that for the fiscal year 1955-56.

"At the last grade conference the State Board of Agriculture decided to retain the grades 4-10-6 and 6-8-6 for one year and gave warning to the fertilizer industry relative to removal of these grades from the list for 1956-57. It is assumed these grades will be removed.

"General fertilizer recommendations given by state college are in terms of pounds per acre of N-P₂O₅-K₂O. These rates may be obtained in various ways. Mixed fertilizers may be utilized with straight fertilizer materials or a fertilizer containing nitrogen and potash may be used with a complete fertilizer. For the benefit of both the farmers and fertilizer industry, the number of grades sold should be maintained at a reasonably low figure. To avoid confusion, fractional ratios should not be sold.

"Requests have been received for a higher analysis fertilizer than 4-9-3 for use on plant beds. The only problem in increasing the analyses will be in getting farmers to reduce the rate of application. In many instances, too much fertilizer is applied at present with the low analysis 4-9-3. This is only a problem of education, however, and it should be possible to overcome it. In order to keep the number of fertilizer ratios to a minimum, it is recommended that a 1-2-1 ratio such as a 6-12-6 be added to the fertilizer list as a tobacco plant bed fertilizer.

"Requests have been received for such ratios as 1-4-2 (4-16-8 or 3-12-6) and 1-4-4 (6-24-24 or 3-12-12). These do not differ greatly from some of the ratios presently on the approved list. Agronomically speaking, no doubt they can be used just as successfully. It is suggested that these be brought up for discussion at the grade conference."



Albert F. Sherry

Albert Sherry New Vice President of Chemical Insecticide Corp.

NEW YORK — The election of Albert F. Sherry as vice president of the Chemical Insecticide Corp., manufacturer and distributor of pesticides and agricultural chemicals, was announced recently by Arnold M. Livingston, president of the New York firm.

Mr. Sherry has been manager of the firm's Metuchen, N.J. plant for four years. In his new capacity, he will be in charge of manufacturing, and will coordinate the expansion program now underway in both research and manufacturing.

Max H. Forster Named To IMC Management Post

CHICAGO—Max H. Forster has been appointed to the newly-created position of management development supervisor of International Minerals & Chemical Corp., according to A. R. Cahill, vice president, finance division.

In this capacity he will act as staff specialist on selection and development of managerial and technical personnel throughout the corporation. He will report to A. C. Thornton, personnel and industrial relations manager, and will be headquartered at the company's general offices in Chicago.

SEEKS OFFICE

LITTLE ROCK—Floyd Fulkerson, chairman of the Arkansas State Plant Board, is a candidate for the Democratic nomination for representative from Pulaski County in the 1957 Arkansas legislature. The nomination is equivalent to election in Arkansas. Mr. Fulkerson, 35, is a plantation operator at Baucum, Ark. and a member of the Baucum Levee District Board.

W. Roberts Wood Elected President Of Girdler Co.

LOUISVILLE — W. Roberts Wood has been elected president of the Girdler Co., Louisville, a division of the National Cylinder Gas Co., Chicago.

The announcement was made by Charles J. Haines, president of the National Cylinder Gas Co., following a meeting of the corporation's board of directors.

Mr. Wood succeeds George O. Boomer, who retired as Girdler's operating head. Mr. Boomer will continue as chairman of the executive committee of the National Cylinder Gas Co.

Mr. Wood was born in Louisville. He received a bachelor of chemistry degree at Cornell University and was associated with the E. I. du Pont de Nemours & Co. at Newark, N.J. before joining Girdler in 1929. In 1939 he was made manager of the gas processes division. He was elected vice president in 1941 and executive vice president in 1948. In 1953, he became a vice president and director of the National Cylinder Gas Co.

Kansas Firm Expands Sales Program

ATCHISON, KANSAS — The Econo-Gas division of Blish, Mize and Silliman Hardware Co. here is expanding its sales program to include irrigation equipment and farm chemicals, according to Frank Johnson, division manager.

Two men have been named as representatives of the organization in this area. They are Charles Kuenzi, Kansas representative, and Frank B. Clayton, Missouri representative.

SOIL TEST INCREASE

NEWARK, DEL. — Samples of soil from Delaware farms and gardens are coming into the soil laboratories at the University of Delaware for testing at a rate 30 to 40% ahead of this time last year, reports Leo Cotnoir, of the University of Delaware School of Agriculture staff. He says that nearly 5,000 soil samples have been received already this year. The total tested by the lab for all of 1955 was 7,000 samples.



G. Burke Garrette

JOINS U.S. POTASH—G. Burke Garrette has been appointed a southern sales representative by U.S. Potash Co., according to an announcement by Dean R. Gidney, vice president. Mr. Garrette will work out of the company's Atlanta office under the supervision of L. Ralph Boynton, southern sales manager. Mr. Garrette is a native of Virginia and holds a degree in agronomy from Virginia Polytechnic Institute. He was formerly associated with American Cyanamid Co. as a technical sales representative for that firm's agricultural chemicals division.



F. M. Chester

SCHELM PROMOTION—F. M. (Bud) Chester has been promoted to the position of vice president and plant manager of Schelm Brothers, Inc., East Peoria, Ill., according to an announcement by W. H. Schelm, president. Before joining the firm two years ago Mr. Chester was associated with a tank company. He was one of the first to develop aluminum tanks for the transporting and storage of liquid nitrogen fertilizer. Schelm Brothers manufactures complete nitrogen solution equipment, tanks, applicators and fittings.

Weed Control Clinic Set at Rutgers

NEW BRUNSWICK, N.J. — Training in weed identification and control will be offered at a meeting at the College of Agriculture, Rutgers University, May 16.

Donald A. Schallock, extension farm crops specialist, says the meeting was arranged especially for dealers in weed-killing chemicals and their representatives, custom operators who specialize in weed killing and farmers who have weed problems.

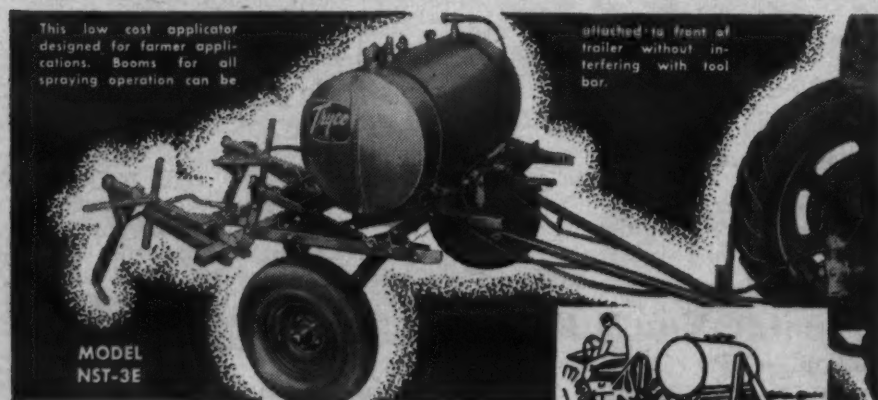
The morning session, from 9:30 a.m. to noon, will be held in Lipman Hall. Speakers will be Claude Phillips, of the University of Delaware, who will give practical aids in weed identification and show how to preserve specimens; Richard J. Aldrich, U.S. Department of Agriculture weed specialist stationed at Rutgers, who will discuss new chemicals, and William G. Harden, Rutgers extension agent in farm engineering. Mr. Harden's presentation will deal with pumps and other machinery used in controlling weeds.

From 1:15 to 4 the group will go outside for practice in identifying weeds, and hearing from specialists the remedy for each. Registration is not necessary.

American Cyanamid Sales Hit New High

NEW YORK—American Cyanamid Company has announced that during the first three months of 1956 net sales of the company and its wholly-owned subsidiaries were approximately \$118,286,000, the highest for any quarter in the company's history. This compared with \$111,643,000 for the first quarter of 1955 and \$114,821,000 for the fourth quarter of 1955.

Consolidated earnings before tax approximated \$21,909,000 for the 1956 quarter as against \$18,454,000 for the corresponding quarter of last year. The provision for federal and foreign taxes on income was \$10,700,000 and in the preceding year the quarterly amount was \$9,000,000. Consolidated net earnings were \$11,209,000 against \$9,454,000 for the 1955 period.



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INSECT AND PLANT DISEASE NOTES

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INSECT AND PLANT DISEASE NOTES

Orchard Insects Noted in Delaware

NEWARK, DEL.—Apple grain aphids are still common, and the rosy aphid has now hatched in moderate abundance. Both European red and two-spotted mites are active. Leaf-roller eggs are being laid. Unspotted tentiform leaf-miner eggs and small larvae are present in alarming numbers in orchards severely infested for the first time in 1955.

The three day period of April 28-30 with maximum temperatures in the low 80's forced curculio and plant bugs from hibernation. For example, 54 curculio were jarred from 10 trees (Camden) May 2, compared with only two April 26.—L. A. Stearns and J. W. Heuberger.

Yellow Clover Aphid Appears in Kansas

MANHATTAN, KANSAS—The first appearance of yellow clover aphid on red clover in Kansas was observed in Shawnee and Douglas counties, east central area, May 4.

Populations of pea aphids have increased to near destructive proportions in a number of alfalfa fields in counties of east central Kansas. Counts range from 100 to 300 per sweep in fields of the Kansas River Valley to highs of near 1,000 per sweep in fields of Linn and Anderson counties further south. Some of the fields in Linn county have plants that are badly wilted, stunted and weakened as the result of the heavy aphid feeding activity.

Various species of range and crop feeding grasshoppers continue to hatch in most areas of southern Kansas. Recent rain and warmer weather have helped further early spring hatches. Counts in some fields in Cowley, Sumner, Harper, Barber and Comanche counties ranged from 6 to 18 per square yard (2nd and 3rd instar nymphs).

Very heavy populations of mites were observed on alfalfa in fields of south central Kansas. Many plants show evidence of apparent injury as the result of mite feeding activity. Counts as high as 50 or more mites per leaflet were recorded in Marion County.

Non-economic populations of greenbugs were found in wheat fields as far north in the state as Barton County in central and in Douglas county, east central Kansas. Counts ranged from 1 to 7 per 25 sweeps. Brown wheat mite populations with counts up to 800 per linear foot of row were found in many fields in south central Kansas counties. Counties included were Edwards, Kiowa, Comanche, Barber, Harper, Kingman and Reno.—Dave Matthew, Jr.

Truck Crop, Tobacco Insects in Georgia

ATHENS, GA.—W. C. Johnson, assistant extension entomologist—survey, reports finding the following insect infestations in his survey of South Georgia May 1-3.

Thrips—heavy infestations on tomato blossoms in Tattnall County.

Colorado potato beetle—heavy infestations on tomatoes and potatoes in Tift and Berrien counties. Light infestations in Tattnall County.

Budworms—heavy infestations on tobacco in Tift, Berrien, Ware, Pierce and Wayne counties. Moderate infestations in Lanier, Clinch, Tattnall, Candler and Emanuel counties.

Flea beetle—moderate infestations in Tift, Berrien, Lanier, Ware, Pierce, Wayne, Tattnall and Candler counties.

Aphids—moderate infestations in

Ware, Pierce, Tattnall, Wayne and Emanuel counties.

Grasshoppers—causing moderate to heavy damage to tobacco in Tift, Berrien, Ware, Pierce, Wayne, Tattnall, Candler and Emanuel counties.—C. R. Jordan.

Forage Pests Increase Activity in Illinois

URBANA, ILL.—Hatch of overwintering spittlebug eggs began the week ended May 4 in clover and alfalfa fields in the north two or three tiers of counties in Illinois. Early insecticide application, while nymphs are still very small, is highly recommended.

Pea aphid populations in the southern one third to one half of the state are increasing rapidly, particularly on alfalfa. Clover leaf weevils are still not extremely numerous, but damage is evident in low spots and in fields with heavy trash cover because plant growth has been slow for the past two weeks.

Very tiny armyworms have been found in extreme southern Illinois in rank wheat, barley and other grass fields.

The cool spring weather has retarded corn borer development. Whether this means that moth emergence will be late remains to be seen. It would be best not to hurry corn planting this year, but those who are planning to plant corn now should also be making plans to apply insecticides when they are needed.—H. B. Petty.

Hay Crop Pests Active in Maryland

COLLEGE PARK, MD.—Alfalfa weevils are very active, adults and larvae, and damage is showing in some fields. Four larvae per sweep were found in Montgomery County fields near the Potomac River and 15 larvae per sweep in Talbot County. Smaller numbers were found in Washington County. Pea aphids are quite variable from field to field—damaging numbers are present in Talbot and Prince George's counties. Spittlebugs are still mainly in the

crowns of clover plants. Numbers are generally moderate. Clover should be sprayed now.

Asparagus beetles are very active in Montgomery County and on the Eastern Shore. Cutworms have been reported in eastern Pennsylvania but not as yet in Maryland.

Elroy Krestensen at the Hancock Laboratory reports rosy aphids very active in one apple orchard and red mites hatching in several places. Plum curculios are now infesting peaches. Strawberry clipper and spittlebugs are active on strawberries in Montgomery County.—T. L. Bissell and W. C. Harding, Jr.

Pea Aphids Continue Damage in Missouri

COLUMBIA, MO.—There is very little new to report in the way of insect development during the week ended May 5.

Pea aphids have continued to cause serious damage during the week over much of the state, and infestation is spreading. It will undoubtedly continue to spread as cold weather continues.

Spotted alfalfa aphids are still working in the southwestern part of the state, but so many pea aphids are mixed in with them that it is impossible to tell which is doing the most damage. There are still greenbugs in many small grain fields along the Kansas line.—Stirling Kyd and George W. Thomas.

Vegetable Insects Active in New Jersey

NEW BRUNSWICK, N.J.—Asparagus beetles are moving into asparagus fields and are causing their usual troubles. On some overwintered spinach plantings, aphids are beginning to appear. Burlington County reports corn flea beetle present on sweet corn plantings.

A loss of 30-50% in stand of newly seeded alfalfa due to crown rot has been reported from four fields in Salem and Cumberland counties. Wilting, dying or dead plants in newly seeded alfalfa fields should be checked for sclerotia.

Alfalfa weevil has been reported to be feeding heavily in Cape May, Cumberland and Salem counties. Fields which were not infested in 1955 are heavily infested this year. State Department of Agriculture survey per-

sonnel report as high as 40 aphids per sweep in the Cumberland County area.—Leland G. Merrill, Jr. and Spencer H. Davis, Jr.

Truck Crop, Fruit Insects in Florida

GAINESVILLE, FLA.—Serpentine leaf miner in larval stage averaging 1-4 per leaf was collected on tomato at Coleman, Sumter County. Infestation was causing moderate damage to leaves of tomato plants in scattered areas throughout each of two 10-acre fields. Both fields were being irrigated, but infestation was more severe in field that had been irrigated more frequently. Granulate cutworm in larval stage averaging 1 per plant was collected on tobacco at N.W. Miami, Dade County.

A histerid beetle in adult stage; a dung beetle in adult stage averaging 10 per fruit; a scarabaeid beetle in adult stage; a darkling beetle in adult stage were collected on rotten citrus at Bradenton, Manatee County. Grape tube gall in larval stage averaging 100 on upper side of leaf was collected on grape at Clermont, Lake County.—H. A. Denmark.

Alfalfa Aphid Not Found in Oregon

PORTLAND, ORE.—Spotted alfalfa aphid has not been discovered in areas inspected this spring by the Oregon State Department of Agriculture.

F. P. Larson, survey entomologist for the department who is heading this work, reports inspections have been completed in Salem and the Dalles areas. Last week the survey teams moved into central Oregon to look for the spotted alfalfa aphid.

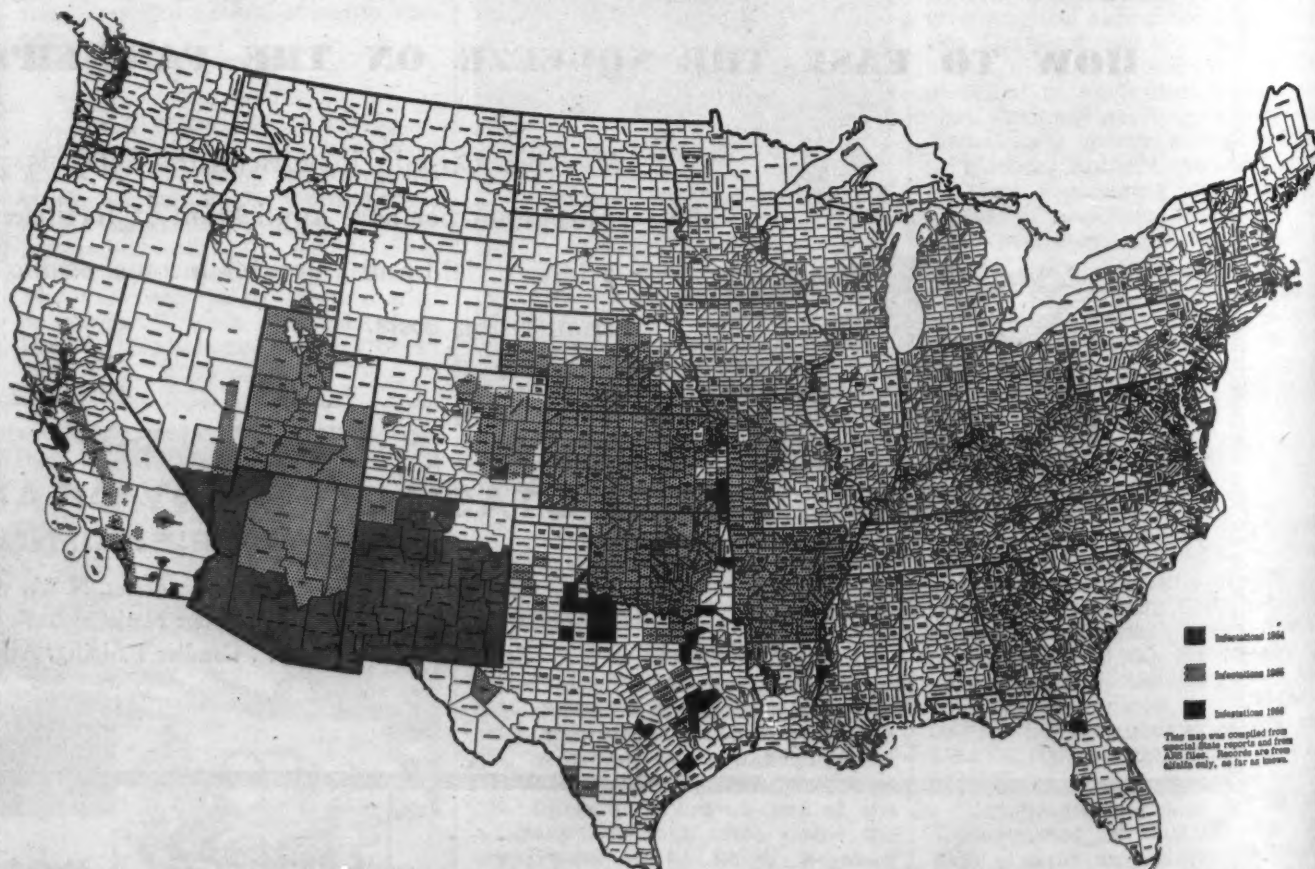
Plant Disease Slow In South Carolina

CLEMSON, S.C.—Following are highlights of the May 2 Insect and Plant Disease Survey Notes from South Carolina:

Little disease is showing up on seedling cotton. Small grain disease development is lagging. Oat aphid injury was diagnosed.

Green clover worms were uniformly abundant, but not especially destructive. Iris leaf spot was noted in numerous localities. A mealy bug in-

(Continued on page 8)



SPREAD OF SPOTTED ALFALFA APHID—Solid black portions of the above U.S. map indicate areas where the spotted alfalfa aphid has been found for the first time in 1956. Note the new infestation in northern Florida, the first time the pest has been found east of the Mississippi River, according to the U.S. Department of Agriculture. The map was compiled from special state reports and

from files of the Agricultural Research Service, USDA. Crossline shaded areas in the southwestern states indicate infestations of 1954. Dotted areas, comprising most of the remainder of the southwest, are areas where the pest was found in 1955. The map was prepared by the Economic Insect Survey Section, Plant Pest Control, Agricultural Research Service. The information is as of mid-April.

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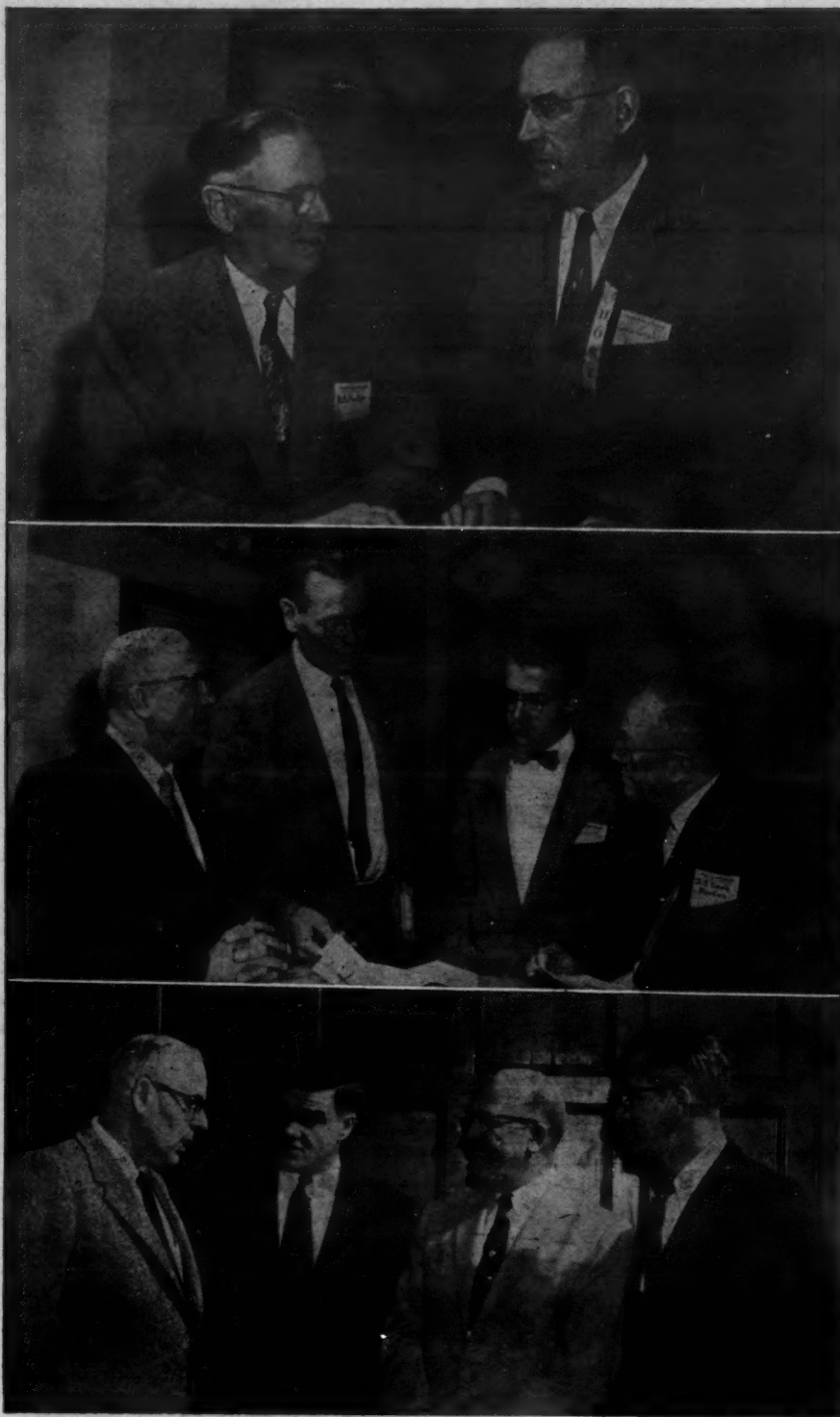
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AT PURDUE ESA BRANCH MEETING—The 11th annual conference of the North Central Branch of the Entomological Society of America attracted entomologists and industry people from a wide area. The meeting was held March 28-30 at Purdue University, Lafayette, Ind. In the top photo is Dr. B. A. Porter, left, chief of the fruit insect section of the U.S. Department of Agriculture, and president of ESA, talking to George E. Gould, Purdue entomologist. Mr. Gould was in charge of local arrangements for the conference.

In the middle picture: C. E. Mickel, head of the entomology department, University of Minnesota, chairman-elect of the branch, left, Harold Gunderson, Iowa State College extension entomologist, retiring chairman of the branch; Roy W. Rings, agricultural experiment station, Wooster, Ohio, and J. J. Davis, head of the entomology department at Purdue.

Lower photo shows the new officers of the branch. Left to right, are D. A. Wilbur, Kansas State College, chairman-elect for 1957; Curtis W. Wingo, University of Missouri, secretary-treasurer; Dr. Mickel, and Roy Rings, the latter a new member of the executive committee. The ESA branch meeting attracted 335 persons from 30 north central states. For a story of the meeting see page 4 of the April 16 issue of Croplife.



PFIZER CENTER—Chas. Pfizer & Co., Inc., officially opened its new north-western distribution center recently. John L. Davenport, executive vice president of the company, headed a group of Pfizer executives who took part in a ribbon-cutting ceremony with Mayor Fred L. Peterson of Portland. Mr. Davenport said the center will enable the company to give improved service to customers in Oregon, Washington, Idaho and Montana. Following the ceremony, Pfizer was host to 200 civic and business leaders at a reception in the new building at 3333 N.W. Industrial St. in the Guilds Lake area. All four of the company's divisions—agricultural sales, chemical sales, Pfizer Laboratories and J. B. Roerig & Co.—will use the center's distribution facilities.

Films on Insect Control Available To TV Stations

HOUSTON—A series of 13 short television films, on the importance of controlling insect pests, is now available to TV stations at no charge from Texas Industrial Film Co., Houston.

Purposely made brief, 3½ to 5 minutes in length, the films actually are chalk talks by one of the country's leading entomologists who has the gift of illustrating his talks with amusing and technically accurate drawings of the insects he discusses.

The entomologist is Prof. Glen Lehker of Purdue University, who is extension entomologist for Indiana. All films are 16-mm., in black and white. No titles or credits appear on the footage.

The films are designed so that they may be used singly or as a series. Subjects include: "What Is An Insect?," "How Insecticides Work," "Dollars and Cents of Insect Control," "Safety with Insecticides," and "Our Insect Friends." Others in the series deal with specific insects such as grasshoppers, armyworms, and boll weevils.

D. R. Mackie Named Managing Director of Monsanto Chemicals, Ltd.

ST. LOUIS—The appointment of D. R. Mackie of London as managing director of Monsanto Chemicals Ltd. was announced here recently by Edward A. O'Neal, Jr., Monsanto Chemical Co. vice president for international operations.

Mr. Mackie was appointed at the regular meeting of the board of directors in London. He has served with Monsanto's subsidiary in the United Kingdom for the past 32 years and has been acting managing director since November, 1955. He has been a member of that firm's board of directors since 1952.

A native of London, Mr. Mackie joined Monsanto Chemicals Ltd. in 1924 as a sales representative. In 1940, he was appointed assistant sales manager. He became general manager of sales in 1948 and in December, 1953, he was appointed commercial director of the company.

Big Need for Rain in Great Plains Reported

MANHATTAN, KANSAS—Need for rainfall throughout the Great Plains area is the most striking feature of the April 1 report of the Great Plains Agricultural Council, issued here by R. I. Throckmorton, chairman of the committee on conditions.

The moisture conditions are better in the northern states than in the central and southern areas. However, there is no excess of moisture in any area. In most sections, crop production in 1956 will be determined by rainfall received during the growing season.

Soil blowing has been serious in some areas and has caused extensive damage to crops and ranges. Soil blowing has not been as severe in some areas as it was last year but has been more severe than a year ago in sections of Texas and southwest Nebraska.

The lack of moisture in pasture and range lands will no doubt result in reduced grass production during the summer unless rainfall is above normal, the report states. Pasture grasses have been slow in starting growth because of a lack of moisture and relatively low temperatures.

The lack of sufficient precipitation to fill stock ponds may prove a serious problem in many areas again this year and may prevent the use of some pastures.



Dr. Marion W. Meadows

Marion W. Meadows Named to Research Post By G.L.F. Exchange

ITHACA, N.Y.—Dr. Marion W. Meadows, associate professor of vegetable crops at Cornell University, has been named assistant director of research for the soil building division of the Cooperative G.L.F. Exchange, Inc., Ithaca, N.Y.

He replaces Dr. Ernest Marshall who has taken a position with Carbide and Carbon Chemicals Corp., a division of Union Carbide and Carbon Corp. The appointment was effective May 1.

John D. VanGeluwe, G.L.F. director of research, said Dr. Meadows will continue the work of Dr. Marshall in research and development of herbicides, defoliant and growth regulators, and will assist in work with insecticides, fungicides and nematocides.

Both Dr. Marshall and Dr. Meadows received Ph.D. degrees from Cornell five years ago. Dr. Meadows is a graduate of Louisiana State University.

Atlas Earnings In First Quarter Show 26% Increase

WILMINGTON, DEL.—Atlas Powder Co.'s first quarter earnings from explosives, chemicals and other sources rose 26% on a 2% increase in sales. Ralph K. Gottshall, president, reported at the annual stockholders' meeting.

Net earnings for the first three months of 1956 were \$959,853, equal to \$1.28 a share on the 747,046 common shares outstanding March 31, 1956. In the same period last year, net earnings were \$764,338, or \$1.13 a share on the 632,830 common shares outstanding March 31, 1955.

The increase of 114,216 in outstanding common stock was mainly due to the conversion of Atlas preferred stock, called for redemption last July.

Sales and operating revenues in the first quarter this year totaled \$15,419,348, against \$15,087,160 for the same period of 1955.

Operating results of Aquaness Corp., now a department of the Atlas chemicals division, are included in both the 1956 and 1955 figures.

The stockholders reelected the firm's twelve directors, approved the deletion from the charter of provisions for non-voting common stock, and authorized the addition of 35,000 shares of common stock, free of preemptive rights, for sale and option to employees.

EXTENSION APPOINTMENT

LARAMIE, WYO.—Louis F. Schilt, Wyoming Agricultural Extension Service county agent leader since 1946, became assistant extension director in charge of programs March 15.

NPFI FILM

WASHINGTON—A 13-minute version of *The Big Test*, a film story of how to take a soil sample properly, now is ready for distribution to television stations by the National Plant Food Institute. The film focuses attention on the importance of soil testing in a good farm management program. Entertainingly and dramatically told, the story unfolds the experiences of a farmer and his step-by-step soil testing procedures.

Irrigation Meeting Scheduled May 17 in McGehee, Ark.

McGHEE, ARK.—Farmers of Arkansas, Mississippi and Louisiana, will have an opportunity to learn how irrigation can help them reduce unit costs and increase farm profits at a meeting scheduled May 17 at the Mallico Theater, McGehee, Ark.

Billy B. Bryan of the University of Arkansas department of agricultural engineering and Dr. R. L. Beacher, head of the soil testing laboratory at the University of Arkansas, open the afternoon's program, which features both scientists and farmers.

Mr. Bryan will discuss "The Importance of Proper Irrigation Design and Maintenance." Dr. Beacher will speak on "Adequate Soil Fertility—A Must for the Irrigation Farmer."

They will be followed by R. W. Schroeder, president of the Arkansas County Agents Assn., discussing insect control; J. W. Pruett of Inverness, Miss., who will tell how he produced 21 bales of cotton on 5 acres, and W. F. Pierce, executive vice president of the Dermott State Bank, discussing "Turning Water Into Dollars."

Dr. W. L. Giles, Superintendent of the Delta Branch Experiment Station, Stoneville, Mississippi, will describe the integration of good management practices with irrigation for maximum returns.

Dr. G. G. Williams, manager, irrigation research and development, Olin Mathieson Chemical Corp., will discuss basic principles of soil moisture as related to plant growth.

Abbott Kinney, president of Radio Station KVSA, McGehee, is chairman of the meeting. There will be a panel discussion and question period following the talks.

The meeting will begin at 1:30 p.m. and will adjourn at 4:30. There is no admission charge and no reservations are necessary. The meeting is sponsored jointly by Olin Mathieson Chemical Corp. and W. B. Loyd & Sons of McGehee.

General Reduction Boosts Output of Clay Processing Plant

CHICAGO—A 100% increase in production capacity has been announced by the General Reduction Co. at its Macon, Ga., special clay processing plant.

The new facilities, used in the manufacture of Pike's Peak Clay, include special equipment and additional storage facilities to enable the plant to make immediate shipment of any of the types of clays manufactured by the firm, according to a company statement.

The clay is handled automatically from the time it enters the plant, traveling entirely by conveyors through all manufacturing processes until it is automatically packed in bags.

General Reduction Co. is a manufacturer of special clay products used as carriers and diluents for agricultural chemicals and insecticides, bleaching and filtering clays for the petroleum industry, and coagulants for use in the treatment of industrial and municipal water supplies.

Roanoke Is Locale for Fertilizer Section of Virginia Safety Group

ROANOKE, VA. — The fertilizer section of the Virginia Safety Assn. will meet at the Roanoke Hotel here May 25, in connection with the three-day state-wide safety convention which begins May 24.

According to W. C. Richardson, Southern States Cooperative, Richmond, Va., chairman of the program committee, the fertilizer safety session will begin on the morning of May 25, with a talk on electrical hazards by C. R. Watts, safety engineer for the Liberty Mutual Insurance Co., Birmingham, Ala.

Other speakers slated to appear on the program are Herman G. Powers, general manager of the Money Point plant of Smith Douglass Co., Norfolk, "Liquid Nitrogen"; M. G. Burnett, superintendent of the Lynchburg plant of Virginia-Carolina Chemical

Co., "Reduction of Fertilizer Piles," and J. M. Wood, general superintendent of Royster Guano Co., Norfolk, Va. His topic will be on "Mobile Equipment."

Co-chairmen of the program committee with Mr. Richardson, are J. A. Wagner, Swift & Co., Norfolk, Va., and M. H. Overstreet, Southwest Virginia Cooperative, Bristol, Va.

Cotton School

COLLEGE STATION, TEXAS—The 47th Annual Summer Cotton School will be held June 4 to July 13 at Texas A. and M. College, according to Prof. J. M. Ward of the department of agricultural economics and sociology. "This summer cotton school is conducted for the purpose of providing training to persons who expect to enter the cotton trade; to growers who desire to learn how to market their cotton more profitably; and to buyers who wish to review grade and staple standards or to become more familiar with the elements of quality in cotton," Professor Ward says.

Olin Mathieson to Double Soda Output

BALTIMORE—A 7,500,000 expansion program to double electrolytic production of chlorine and caustic soda at the McIntosh, Ala., plant of Olin Mathieson Chemical Corp. was announced here recently by John O. Logan, vice president and general manager, industrial chemicals division.

The expansion will increase the plant's capacity to 250 tons of chlorine and 280 tons of caustic soda per day. Construction, which is already under way, is being handled by the Blaw-Knox Co., with completion scheduled for January, 1957.

NEW EQUIPMENT ORDERED

NORTH LITTLE ROCK, ARK. — New equipment is on order for the Arkansas Plant Food Co. plant here. The principal new item will be a continuous ammoniating unit. Installation will be made during the fall season.

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ALFALFA APHID

(Continued from page 1)

main alfalfa growing areas plowed up, and the remaining untreated fields reduced to non-economic levels of production.

In Utah the pest recently destroyed some alfalfa fields in Washington County, and damaged some fields in San Juan County. Both aircraft and ground spray equipment have been spreading insecticides there.

In Denton, Kaufman, Rockwall, and Brazos counties, Texas, the aphids are thick on alfalfa. Populations of the pest have been generally heavier in Texas this year than last, but were being reduced by beneficial insects by late April.

Although the insect continues to be a problem in southern Arizona, winter infestations were lighter there than in 1955.

In southeastern and southern Kan-

sas, infestations are heavy to severe. Based on last year's spread rate, the aphid is expected to cover most of the state and become a serious threat to alfalfa. However, numerous insect predators of the aphid have been found in many southern counties.

Southwestern Missouri alfalfa fields have been seriously damaged by both the pea aphid and the spotted alfalfa aphid. In some fields, as many as 1,000 spotted alfalfa aphids may be obtained from plants at one sweep of a net. In 1955, counts in that state ranged only 1 to 4 aphids per sweep.

California losses from the aphid are apparently lighter than last year, when its cost to growers ran into millions of dollars.

In southern New Mexico, populations were increasing in late April. The insect is attacking a larger acreage than in 1955.

In Arkansas, populations of the pest are declining, probably because of predators and insecticidal applications.

M. M. Witter Joins Reasor-Hill Corp.

NORTH LITTLE ROCK, ARK.—M. M. Witter, a graduate of Ohio State University, has joined the Reasor-Hill Corp. at nearby Jacksonville, Ark. as manager of the packaged products division. The company manufactures agricultural insecticides and sells to outlets in all sections of the U.S. and several states in Mexico.

RECORD SOYBEAN CROP

COLLEGE PARK, MD.—Maryland farmers are expected to plant the largest crop of soybeans this year ever planted in the state. This has been indicated by the March intentions reports submitted by farmers throughout the state, according to C. N. Guellow, agricultural statistician in charge for the Maryland crop reporting service. Indications are, according to the report, that Maryland farmers will plant some 169,000 acres of soybeans. This is 20% more than in 1955.



J. J. Patterson, Jr. William T. Bess, Jr.

APPOINTED—Union Bag & Paper Corp. has announced the appointment of J. J. Patterson, Jr., as director of multiwall bag sales. A member of the organization since 1936, Mr. Patterson has been associated with the multiwall bag division since its inception. Prior to his new appointment he served as field sales manager. At the same time the company announced the appointment of William T. Bess, Jr., as assistant director of multiwall bag sales. Mr. Bess joined the company in 1950 and served most recently as southeastern district manager of the multiwall bag sales division.

INSECT NOTES

(Continued from page 4)

pests pine in Bamberg County, first record for the state.

Aphids were reported breeding stored onions in Laurens. Potato beetle was present in Charleston County. Flea beetles were abundant on egg plant in Charleston. Cabbage caterpillars reported increasing Charleston.—R. L. Walker.

Alfalfa Aphid Present in Colorado

DENVER — Herb Gates, Colorado State Department of Agriculture entomologist, reports alfalfa aphid in Colorado is present, but in lesser quantities than many states. Infestation is spotted, for the most part confined to the Arkansas Valley in the southeastern section of the state and in a couple of instances on the Western Slope.

Codling Moth Begins Emergence in Indiana

VINCENNES, IND. — There has been 1% of codling moth emergence to date. First moth catch in bait traps was on May 3 and bait trap catch for 15 traps totaled nine moths to date. A few eggs could have been laid. About 47% of overwintering larvae have pupated.

All overwintering European red mite eggs in apple orchards have hatched. On May 8 an actual count of 25 Red Delicious leaves was 68 eggs, 14 nymphs and 11 adults. First oriental fruit moth catch in bait trap was made on May 7. Four stink bugs were jarred from 5 trees in a commercial orchard on May 8. To date 61 armyworm moths have been counted in five traps located south of Vincennes.—Kenneth W. Lamar, sky.

Monsanto Personnel Get New Assignments

ST. LOUIS—Two changes in assignment for sales personnel of Monsanto Chemical Co.'s organic chemical division have been announced by John L. Hammer, director of marketing for the division.

Frank I. Jones of Cincinnati, is transferred to the division's New York City sales office and August R. Hempel of St. Louis is assigned to the Cincinnati office. Both changes are effective June 1.

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A SPECIAL CROPLIFE DEPARTMENT TO HELP RETAILERS IMPROVE MERCHANDISING KNOW-HOW



SHOP TALK

OVER THE COUNTER

FOR THE DEALER

By EMMET J. HOFFMAN
Croplife Merchandising Editor

Interested in knowing what your plant food "know how" is? Here's a chance to compare it with answers of 400 fertilizer dealers who participated in a quiz conducted by the Spencer Chemical Co. About 5% of those entering answered correctly all of the 16 questions asked. However, a surprising number of dealers said "false" to 11 of the 16 questions were of the "true-false" type) to such basic questions as "A unit of plant food is 20 lb.", although this is an established measure in the fertilizer industry.

The company awarded prizes for the best returns and winners to Clayton Klein, Klein's Soil Service, Fowlerville, Mich.; Audia Boyd, Boyd's Gin Co., Campbell, Mo., and Jerome Dollar, Dollar's Farm Products, Bainbridge, Ga.

Here are the 16 questions for you to try out on yourself. The first 11 should be answered with "true" or "false" and the last five are "multiple choice" questions. Following the questions are the answers.

1. A unit of plant food is 20 pounds or 1% of a ton.
2. Soil reaction (degree of acidity or alkalinity, and expressed as pH) has no influence on the availability of plant food.

3. A soil with a pH 7 is at the neutral point, and as the pH number gets smaller the acidity decreases.

4. Purchase-wise, the calcium in lime is the cheapest plant nutrient.

5. A 1-4-2 ratio fertilizer contains one part nitrogen, four parts potash and two parts available phosphoric acid.

6. Ammonium nitrate is 33.5% nitrogen. Half is nitrate nitrogen and half ammonia nitrogen.

7. Nitrate nitrogen is slow acting and the ammonia nitrogen quick acting.

8. It was less than 80 years ago that the first fertilizer dealer sold the first sack of commercial fertilizer to the first fertilizer-using farmer.

9. Baltimore, Md., is regarded as the birthplace of the fertilizer industry in this country.

10. Currently, corn receives on the average half as many pounds of fertilizer per acre as recommended by our agricultural colleges.

11. The U.S. would produce about 10% less food and fiber if there were no commercial fertilizer.

12. The world's record corn yield is 204 bu., 284 bu., 224 bu., 143 bu.

13. Alfalfa grows best at a soil pH of 5.7, 6.1, 6.2, 6.5.

14. The production cost of an acre

(Continued on page 12)

Retail Fertilizer Prices in Pennsylvania Noted

HARRISBURG, PA.—The average unit values of fertilizer sold in Pennsylvania during 1955 are estimated from the average retail selling prices at \$5.20 for nitrogen, \$1.23 for available phosphoric acid and \$1.68 for water soluble potash, according to the Pennsylvania Department of Agriculture.

The average retail selling price for complete fertilizer in 1955 was \$58.91 a ton, compared with \$55.80 a ton in 1954.



By RAYMOND ROSSON
County Agent, Washington County, Tenn.

Farm income, factory payrolls and business profits are the three legs of prosperity. They are interdependent and inseparable. Our economic structure cannot rest storklike, supported by only one leg.

Folks called producers, folks called consumers, folks who move products and merchandise from one to another—all are useful beings. Many are producers and all are consumers. We like to produce one thing and use another. We can't produce everything we use. Things that we can't eat, wear or play with, won't do us any good unless we can trade them for something we can use.

The common denominator is the stomach and what goes into it. It's the life of every country and of every people. It doesn't matter whether we drive a tractor or a city bus; whether we sell pigs or automobiles; keep house on a RFD route or on High Street; practice good crop management or practice law . . . everyone has a stake in the soil that produces our food.

Good farm incomes are tied very closely to well managed farms . . . mechanization . . . high crop yields and low production costs as well as productive labor. Good factory payrolls are tied more closely to good farm incomes than most people think. Business profits are tied very closely to both factory payrolls and farm income.

Many people need to look beyond the end of Main Street. The first sale starts out on the land. It's new money when farmers produce something from the good earth.

It's Poor Business to Knock Competition; Dealers Should Tell Own Sales Story Instead

By AL. P. NELSON
Croplife Special Correspondent

It has often been said that competition is the lifeblood of trade in the American free enterprise system, but there are certain pitfalls in battling competition that the wise dealer always seeks to avoid. These pitfalls can often hurt the dealer more than they can benefit him. In fact, some of the practices detailed can wreck a dealer entirely.

Let me cite a few examples. In a day and age when the use of various types of fertilizers is growing fast, when farmers and authorities agree that fertilizer has helped farmers survive in a hectic economic period, there are some fertilizer dealers who make as their main sales policy the knocking of other brands and types of fertilizer.

For example, some dealers who handle only dry fertilizer will knock liquid and anhydrous when talking to farm customers. On the other hand, some sellers of anhydrous ammonia and liquid fertilizer will knock dry fertilizer.

Apparently the dealers who do this knocking of other products think that by so doing they can swing a sale to themselves. And in laying chief emphasis upon this knocking they are committing one of the most grievous economic errors a merchant can commit.

The fellow who goes around knocking a competitor all the time in order to get the business for himself, uses this knocking as his main sales point. He becomes known to farmers as a fellow who is a knocker, who seems to hate his competitors and who is short on producing evidence that his type of fertilizer produces more than others. In other words he does not do a complete all round selling job.

Any alert dealer knows that this is the time for all fertilizer dealers to stick together, to foster the tremendous good will which fertilizer has built up by producing more crops for the farmer. The farmer who has been buying dry fertilizer and whose dealer is knocking anhydrous ammonia and liquid fertilizer, is not going to believe the dry fertilizer dealer, when he knows neighbors who are getting good results using anhydrous and liquid fertilizers.

Likewise the liquid fertilizer dealer who knocks dry fertilizer and its results overlooks the fact that his customers, too, know neighbors who get excellent results with that type of fertilizer.

Also many fertilizer dealers overlook the fact that high school, college and other ag classes which conduct fertilizer experiments, and which publish articles or pamphlets about such experiments, often recommend dry and liquid fertilizer and anhydrous. Thus the dealer who knocks a competitor just because he handles fertilizer in a different form from his is acting mighty silly.

He is bucking, so to speak, the recommendations of unbiased scientific authorities who advocate

fertilizers of many types. And in some instances tests have proved that various types of fertilizer are about equal on certain soils and for certain crops, and that the farmer must make the decision as to which he will buy.

In a number of instances where I have visited dealers I have found that some anhydrous ammonia dealers have added dry fertilizer because they found it to be a valuable addition to their service to the farmer. And I have also found dry fertilizer dealers who have added anhydrous ammonia and liquid fertilizer because they found such items valuable additions to their fertilizer line.

And it seems very likely that in the future, as the industry develops, that many fertilizer dealers will not be classed as "dry fertilizer dealers" or "liquid" or "anhydrous ammonia dealers" but rather as a combination.

What seems to be important now is to further the wonderful publicity which fertilizer is now getting, to show lagging farmers that they need to buy and use recommended amounts of fertilizer, in one form or another, which will give them the right fertilizer according to a soil test. There are many farmers who could be "upped" on an acreage basis when it comes to fertilizer application. They should be shown by alert dealers that they can make more money by fertilizing properly.

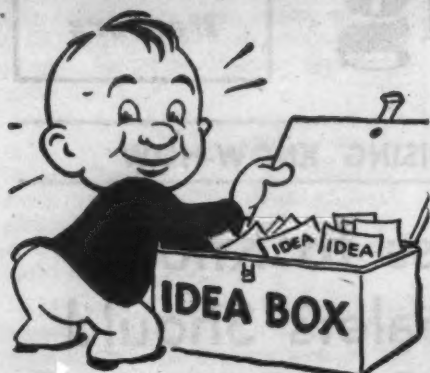
One state college experiment expert told me last summer: "We know that most of the farmers in our state are fertilizing below what we recommend according to our experimental plots for soils in our area—but we are hoping that year by year we can educate the farmers to increase their use of fertilizer until it gets close to what we recommend."

"It would be too much to hope, except in the case of specialized farmers, that the average farmer will, even within five years, use exactly the amount of fertilizer we recommend. But we are slowly working upward."

More so than perhaps any other industry, the fertilizer industry has an excellent means of producing evidence to farmers about the fact that fertilization pays. The using of check strips, the measuring of crops from both fertilized and unfertilized strips, the posting of signs of amounts of fertilizer used, the taking of pictures and the showing of slides, bring the story of fertilizer home to the farmer in a very graphic manner.

This type of promotion does not cost the fertilizer dealer too much. He should do more of it, because it gives him sales ammunition for the moment and also for a year or two after. So his promotion money is well invested.

No, the fertilizer dealer does not need to worry about competition—yet. If the dealer will avail himself of the many opportunities to sell fertilizer, he will be kept so busy that he will not worry about the merits of the product his competitor sells. For it is in selling, not knocking, that profit opportunities lie.



What's New...

In Products, Services, Literature

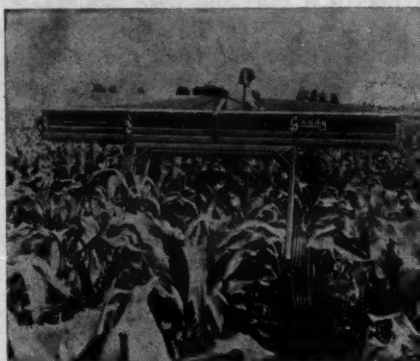
You will find it simple to obtain additional information about the new products, new services and new literature described in this department. Here's all you have to do: (1) Clip out the entire coupon and return address card in the lower outside corner of this page. (2) Circle the number of the item on which you desire more information. Fill in your name, your company's name and your address. (3) Fold the clip-out over double, with the return address portion on the outside. (4) Fasten the two edges together with a staple, cellophane tape or glue, whichever is handiest. (5) Drop in any mail box. That's all you do. We'll pay the postage. You can, of course, use your own envelope or paste the coupon on the back of a government postcard if you prefer.

No. 5443—Grain Fumigant

New literature concerning its grain fumigant, "80-20," is available from the Stauffer Chemical Co. The product is described as a formulation for control of insects infesting bulk-stored seeds and grains in farm bins, granaries and elevators. Application instructions for railroad cars and elevator and farm bins—including large and small structures—are available. Fumigation during mild weather is suggested for best results. Dosage and precautionary information are also provided. Secure the information by checking No. 5443 on the coupon and mailing it to this publication.

No. 6414—Applicator

Corn borer control by use of a new machine called by the trade name, Gandy Hi-Lo insecticide applicator, is announced by the manufacturer, the E. S. Gandrud Co., Inc. Company officials state that the applicator drops metered amounts of dry chemical granules into corn whorls to kill corn borers as they try to enter the stalk. The applicator adjusts to heights of 2½-5 ft.



and spreads to 12- to 14-in. ribbon of granules over each of four rows. The granules combine with dew and rain water in the corn whorl to form a concentrated solution at the point where the newly-hatched borer attacks the stalk, it is claimed. Since granules stay only in the whorl, DDT contamination is greatly reduced, the officials state. A tractor-drawn unit, the applicator drops the granules after plants have returned to an upright position. Dry chemical granules are dropped into corn whorls. Secure more details by checking No. 6414 on the coupon and mailing it to Croplife.

No. 5451—Bag Closing Heads

The Union Special Machine Co. announces the development of a new class of bag closing machine sewing heads—class 53600. These new units are complete and direct replacements for the older class 14500 machines and are designed for closing light to heavy weight cotton, burlap and osnaburg bags and one- to three-ply paper bags. All units in the new class are single needle, high throw machines and incorporate numerous improvements and new features, according to the company. Rated speed has been increased 50% and an enclosed automatic lubrication system that is fed by two external reservoirs is now used, according to company officials. For particular production requirements, seven individual styles of machines are available in the new line. They include three units for mounting on auxiliary bag machines and four suspended head units with variations of counterweight or top lock balancer. Secure more complete details by checking No. 5451 on the coupon and mailing it.

No. 6411—Dust Mask

Flexo Products, Inc., has prepared a new folder on its dust mask, called by the trade name, Flex-A-Foam. The folder states that the mask weighs one ounce, filters non-toxic dusts as small as 125,000 of an inch, permits easy breathing and has four long-wearing, interlocking parts—all washable. A price chart for the masks, filters and headbands is included in the folder. To secure it check No. 6411 on the coupon and mail it to Croplife.

Also Available

The following items have appeared in the What's New section of recent issues of Croplife. They are reprinted to help keep retail dealers on the regional circulation plan informed of new industry products, literature and services.

No. 6409—Aqua Ammonia Converters

A new brochure has been prepared by the J. C. Carlile Corp. on a line of aqua ammonia converters for the agricultural industry, giving a description of the operation of the unit and the handling of aqua ammonia. The company's ammonia converter unit is claimed to provide an adequate mixing chamber for efficient and complete reaction of anhydrous ammonia and water; cools the hot solution sufficiently to permit its

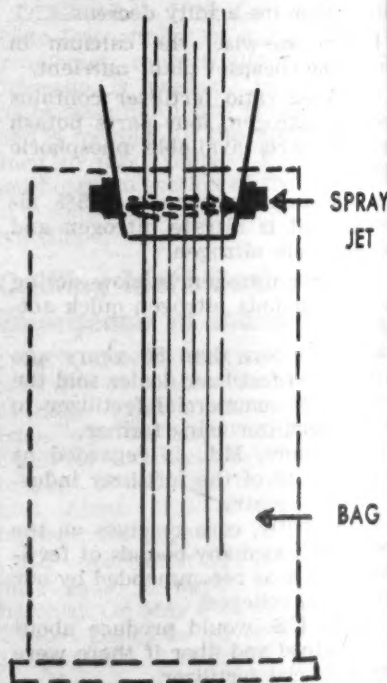
storage in low pressure tanks, and carries on these two steps out contact with the atmosphere, thus preventing loss of nitrogen during processing. The converter is made a wide range of sizes. Secure the brochure by checking No. 6409 on the coupon and dropping it in the mail.

No. 6412—Soil Fumigant

An illustrated informational bulletin on Bromofume soil fumigant has been issued by the agricultural chemicals division of American Potash & Chemical Corp. for use in controlling nematodes in the growing of numerous truck and field crops. The folder includes information on uses for the product, proper soil preparation, methods of application and recommended dosages. Company officials state that the product, an ethylene dibromide fumigant, will increase production in nematode-infested lands, in the growing of such crops as beans, carrots, potatoes, sweet potatoes, lettuce, tomatoes, sugar beets and cotton. To secure the bulletin check No. 6412 on the coupon and mail it to Croplife.

No. 6410—Insecticide Injector

An injector for adding liquid insecticides to fertilizer, called by the trade name, Jetrol, is being marketed by the Bemis Bro. Bag Co. In new literature published by the company it is stated that the injector adds liquids to products prior to bagging, automatically sprays the product falling into the bag, measures the exact quantity of insecticide and diffuses it thoroughly and does not affect the fertilizer weighing process. As the tumbling product passes by the injector nozzles, automatically



the four nozzles of the injector spray liquid insecticide into the fertilizer. Spraying time is controlled by adjustment of an air pressure regulator. Secure detailed literature about the injector by checking No. 6410 on the coupon and dropping it in the mail to Croplife.

No. 6403—Soil Sampler

Elano Corp. has available new literature on its product called the Hoffer soil sampler. The sampler's basic features are a probe cup with heat treated cutting tip that resists blunting, bending or twisting, according to a company spokesman. The cup is machine drawn from the main tube in such a manner that it cuts a soil core slightly smaller than the tube itself, permitting the core to

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| <input type="checkbox"/> No. 5409—Booklet | <input type="checkbox"/> No. 6406—Soil Insecticides |
| <input type="checkbox"/> No. 5410—Conveyor Brochure | <input type="checkbox"/> No. 6407—Tractor Shovel |
| <input type="checkbox"/> No. 5436—Bag-Opening Device | <input type="checkbox"/> No. 6408—Solution |
| <input type="checkbox"/> No. 5439—Bag Coating | <input type="checkbox"/> No. 6409—Converters |
| <input type="checkbox"/> No. 5443—Grain Fumigant | <input type="checkbox"/> No. 6410—Insecticide Injector |
| <input type="checkbox"/> No. 5451—Bag Closing Heads | <input type="checkbox"/> No. 6411—Dust Mask |
| <input type="checkbox"/> No. 6402—NH ₃ Film | <input type="checkbox"/> No. 6412—Soil Fumigant |
| <input type="checkbox"/> No. 6403—Soil Sampler | <input type="checkbox"/> No. 6414—Applicator |
| <input type="checkbox"/> No. 6405—Fly Spray Booklet | |

NAME

COMPANY

ADDRESS

CLIP OUT—FOLD OVER ON THIS LINE—FASTEN (STAPLE, TAPE, GLUE)—MAIL

FIRST CLASS
PERMIT No. 2
(Sec. 349,
P. L. & R.)
MINNEAPOLIS,
MINN.

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Reader Service Dept.

Minneapolis 1, Minn.

in the tube without breaking. The side construction permits analysis of the soil at various depths. The sprayer also makes a planting tool, is stated. Literature giving more complete information will be mailed to you. Check No. 6403 on the coupon and mail it to Croplife.

No. 5439—Multiwall Bag Coating

The St. Regis Paper Co. has developed a multiwall bag coating, called by the trade name, "Luster-rip," which is claimed to be non-toxic, and provides improved printing characteristics, less ink rub and a cleaner package. The company announcement states that a non-toxic coating is applied to provide an even, smooth surface. Printing is done prior to application of the coating. Secure more complete details by checking No. 5439 on the coupon and dropping it in the mail.

No. 5410—Conveyor Brochure

The Seedburo Equipment Co. has prepared a 12-page illustrated brochure on its conveyors known as the "Control" line. The conveyors are designed for handling bags, boxes, cases and cartons in the feed, fertilizer, grain, seed and allied agricultural trades. The brochure, designated No. 5410, is available without charge. Check No. 5410 on the coupon, clip and mail it to this publication and the brochure will be mailed to you.

No. 6407—Tractor-Shovel

A new tractor-shovel, known by the trade name, "Ho Payloader," has been introduced by the Frank G. Lough Co. The unit has a heaped capacity of 2½ cu. yd. and a struck capacity of 1½ cu. yd. Features of the unit are a complete no-stop power shift transmission and torque converter and planetary axles and torque proportioning differentials. The "pry out" bucket action and 40° breakout at ground level have been retained from older models. The model is available with either gasoline or diesel power. Check No. 6407 on the coupon and mail it to secure more complete details.

No. 5436—Bag Opening Device

Arkell & Smiths has applied for patents on its newly-designed multi-wall bag-opening device called the "Zip-Top." When adapted to the standard A & S sewn valve or sewn open-mouth bag, the "Zip-Top" permits easy opening with one sharp pull of the tab, it is claimed. The opening thus formed extends the full width of the bag to facilitate pouring. The new feature is available without charge from any of the three A & S multiwall bag plants. Further information on this innovation may be obtained by checking No. 5436 on the coupon and mailing it to this publication.

No. 6405—Fly Spray Booklet

Sixteen pages of information for spray manufacturers comprise the new edition of a booklet on Crag fly repellent, just published by Carbide and Carbon Chemicals Co., a division of Union Carbide & Carbon Corp. The booklet is designed as a guide to help manufacturers of livestock sprays and gives information on the company's fly repellent, including physical properties, insecticide solubilities and advantages of use in sprays. Tables give suggested formulations for four ready-to-use oil sprays, two emulsifiable concentrates,

three treadle spray concentrates and two pressurized sprays. Among the formulations listed are ready-to-use oil spray LSO-30, claimed to be effective against horse flies and emulsifiable concentrate F-21, called a "low-cost spray." The booklet may be secured by checking No. 6405 on the coupon and mailing it.

No. 6402—NH₃ Film

Standard Oil Company (Indiana) has released a new color film on petroleum-derived anhydrous ammonia. The 16 mm. sound movie, entitled "Protein From Petroleum," has a screening time of 30 minutes. The film is available for showing to public groups. To secure more information about securing the film check No. 6402 on the coupon and drop it in the mail.

No. 6406—Soil Insecticide

A folder has been prepared by the Stauffer Chemical Co. on the soil insecticide, Heptachlor. Comparisons of corn yields where soil treatment, fertilizer and irrigation were and were not used are given in the folder. A pictorial record showing use of the product is also included. To secure the folder check No. 6406 on the coupon and mail it to Croplife.

No. 6408—Solution for Fertilizer

A new urea-formaldehyde solution, which is claimed to enable fertilizer manufacturers to produce granular-type fertilizers containing long-lasting organic nitrogen for lawns, gardens and specialty crops, has been announced by Nitrogen Division, Allied Chemical & Dye Corp. The solution, called "N-dure," is said to produce complete fertilizers in which the nitrogen is released to plants over an entire growing season. The slow release produces non-burning and leach-resistant fertilizer, according to the announcement. It adds: "By using the product, manufacturers can make chemically blended, granular mixtures that are dust-free and practically odorless. Granulation can be achieved without special equipment, only standard ammoniation apparatus being needed. N-dure, a clear, golden liquid, contains 12% nitrogen. A feature of the product is that it allows manufacturers, for the first time, to make mixtures containing a wide variety of ratios between water soluble and insoluble nitrogen." Secure more complete details by checking No. 6408 on the coupon and mailing it to Croplife.

No. 5409—Grain Sanitation Booklet

"Meeting the Challenge of America's New Grain Sanitation Requirements" is the title of a brochure being distributed by the Douglas Chemical Co. The 8-page booklet deals with grain sanitation "in a frank, easy-to-understand discussion of the problems facing both the farmer and the commercial elevator man," the company announcement states. The brochure outlines the steps necessary to combat the insects that destroy thousands of dollars worth of grain each year, it is explained. A copy of the booklet may be obtained by checking No. 5409 on the coupon and mailing it to this publication.

MONSANTO DIVIDEND

ST. LOUIS—The Board of Directors of Monsanto Chemical Company has declared a regular quarterly dividend of 25¢ a share on the company's \$2 par value common stock. The dividend is payable June 15 to holders of record at the close of business May 25.

What's Been Happening?

This column, a review of news reported in Croplife in recent weeks, is designed to keep retail dealers on the regional circulation plan up to date on industry happenings.

U.S. Potash Co. is planning to merge with Borax Consolidated Ltd. of England, according to an announcement by U.S. Potash Co. officials. Work started on a new Swift & Co. plant food factory in St. Joseph, Mo.

Congo growers of pyrethrum announced plans to erect a \$500,000 pyrethrum-extraction plant in Africa. Discovery of a Mediterranean fruit fly in Florida set off an all-out eradication battle, headed by the U.S. Department of Agriculture. It was the first Medfly invasion of the U.S. since 1929.

The presence of unusually large populations of boll weevils were reported in South Carolina, Louisiana, North Carolina and Georgia by the USDA, following spring surveys in these areas. Farmers were urged to keep a watchful eye on their cotton fields and to be prepared to apply control materials on short notice if the situation should require such action.

Edmund Greene was named director of marketing research for Monsanto Chemical Co., St. Louis, Mo. Mr. Greene was formerly assistant director of the company's advertising department. He succeeded Shea Smith III, who became assistant to the president of Monsanto.

Infestations of alfalfa-destroying insect pests were reported from various parts of the country. The spotted alfalfa aphid was listed by Kansas as its No. 1 pest, while alfalfa weevils were reported as active in Maryland. Late in April the House agriculture committee was studying the factors involved in granting financial aid to farmers to help them to control spotted alfalfa aphids. USDA witnesses indicated that the best defense is to develop insect-resistant crops.

A proxy contest at Virginia-Carolina Chemical Corp. loomed as Rupert T. Zickl, and associates from New York, sought to gain a majority on the V-C board. Joseph A. Howell, president of the corporation, in an open letter to Mr. Zickl asked for further information about the latter's intents and purposes.

A bill was introduced into Congress asking for a \$15 million allocation for the purchase of insecticides to control the spotted alfalfa aphid, particularly in the southwestern states. Sponsors of the bill were doubtful, however, that any immediate action would be forthcoming because of the jam brought about by the farm bill.

The Food and Drug Administration made some changes in its administrative techniques under the provision of the Miller amendment. A re-alignment of fees and methods of figuring the legal tolerances where a number of pesticides are involved, were features of the new policy announcement.

Spotted alfalfa aphid was prominent in insect reports from various sections of the country. Reports from Maryland, New Mexico, Kansas and Missouri all told of damage being done by the alfalfa insect.

Presidential veto of the farm bill was seen by plant food industry leaders as creating an encouraging situation even if soil bank legislation fails to be passed. Sales of fertilizer were expected to begin increasing their tempo with the passing of uncertainties as to whether or not the farm bill would be vetoed.

American Potash & Chemical Corp. included with its 1956 annual sales meeting, a tour of the company's headquarters at Los Angeles and facilities at Vernon, Whittier and Trona, Cal.; Henderson, Nev., and San Antonio, Texas.

Swift and Co. announced that it would begin construction soon on a new complete liquid fertilizer near Hayward, Calif. When completed, it will make aqua ammonia, complete liquid mixed plant foods, ammonium phosphate solutions and other solutions.

Chemagro Corp., New York, announced that it had consolidated the agricultural chemical activities of Pittsburgh Coke & Chemical Co. and the Farbenfabriken Bayer A.G., Leverkusen, Germany. The move affected activities of these firms in both the U.S. and Canada.

Spencer Chemical Co., Kansas City, announced new facilities for production of aqua ammonia and concentrated nitric acid at the firm's Henderson, Ky. Works. The new facility was scheduled to begin production May 1.

Congress passed the farm bill, despite the fact that the administration had termed the measure "unacceptable" earlier. An opportunity was seen for the plant food industry to go ahead with sales, since the uncertainty of the terms of the new law was made clear.

The American Chemical Society held its spring meeting at Dallas, Texas, April 8-13, with much consideration being given to methods of determining pesticidal residues on foods. The North Central Branch of the Entomological Society of America met at Purdue University March 28-30 and covered numerous insect problems as related to the middlewestern states. Special emphasis was placed on the use of soil insecticides.

The high survival of boll weevils in Louisiana indicated the possibility of an abundance of this pest during the coming season, if conditions are right for their development. An average of 3,654 live weevils per acre were found in Madison parish. This figure was 4.3 times the average number found during the past 20 years, and 1.7 times the previous record set in 1950.

Experts in the fertilizer field held differing views regarding the sales possibilities for the 1956 growing season. One group was described as being optimistic, the other much less so. Fear was expressed that the delay in passing farm legislation in Washington, would slow sales at the present time, only to create an unusually heavy demand later.

Davison Chemical Co., Division of W. R. Grace Co., Baltimore, announced the installation of new facilities at its Curtis Bay Works for production of granular fertilizer materials. The new unit cost \$400,000. Donald F. Starr was named by Trinidad Rynia Corp. as its representative in the U.S. His headquarters are at Upper Montclair, N.J.

New England News Notes

By GUY LIVINGSTON
CROPLIFE Special Correspondent

An all out war on mosquitoes is being urged by mosquito control superintendents, who warned recently that egg hatching is going on in eastern Massachusetts and the Connecticut Valley. Some delay is expected in hatching in the Berkshires and other high altitudes, but officials pointed out that "right now is the best time to fight against mosquitoes since they can be controlled more effectively than later on when adults are flying around ready to bite and breed."

The department of entomology at the University of Massachusetts in Amherst advised that community or area control activity is much more effective than individual action and asked that community action be started right away.

"It is important to apply control materials as soon as possible since the small quantities used are much more effective against young larvae than they are against the older stages," the entomology department said. "Also, it is important not to exceed the recommended dosages with insecticides."

Flood Warning System

A new flood warning system for Southern New England has been announced by the U.S. Weather Bureau. The system will cover Massachusetts, Rhode Island, Connecticut and the Connecticut River Valley in Vermont and New Hampshire. It will send alerts to local police and civil defense officials in communities threatened by floods.

Previously complete flood warnings have been issued only for the Connecticut River. The new service covers all major rivers in the area, including the Housatonic, Naugatuck, Farmington, Quinebaug, Blackstone, Chicopee and Westfield.

Under the new system, which has just begun operation, Weather Bureau at Hartford will collect and evaluate reports of rainfall, stream conditions and other flood contributing factors. Whenever flood threats develop, warnings will be sent out over state police radio and teletype networks.

Last year's floods, which washed out crops, inundated farms and caused billions in damage, were responsible for the installation of the new flood warning system.

Dutch Elm Disease

With continued vigilance by the public and town officials, the American elm will not disappear from Massachusetts streets and highways. This is the opinion of Dr. Malcolm A. McKenzie, in charge of the Shade Tree Laboratories at the University of Massachusetts, who stressed the need for control of Dutch elm disease.

"A few years back, people thought that the Dutch elm disease would wipe out the elms just as the blight did the New England chestnut trees," he said. "Only by constant control was this prevented."

In 1954 some 12,000 samples were tested at the Shade Tree Laboratories, and in 1955 this number jumped to about 15,000. Diseased samples totaled better than 7,300 in 1954 and more than 9,000 in 1955. Out of the 351 towns in the state only 21 have yet to report the disease, which was discovered in Alford in 1941.

No Let-up in Cost-Price Squeeze Seen in New England

BOSTON—Current outlook for agriculture in southern New England indicates that farm costs will probably increase slightly, and prices of farm products—contrary to the trends for the rest of the country as a whole—may well be as high this year as last, according to George W. Westcott, extension economist at the University of Massachusetts, Amherst.

"The cost-price squeeze which has been on in southern New England since 1947 is still with us and farmers faced with this challenge must continue to increase their efficiency and cut costs in order to meet the future," he said.

He characterized the current farm situation as an over-supply of farm commodities which drives down prices as costs mount. A severe farm price-cost squeeze is thus generated and new means are needed to reduce surpluses and widen markets.

The demand for New England farm products, strong through 1955, already is off to a good start with consumer incomes, industrial production, business investment in new plants and equipment, retail sales and non-farm employment at record levels, he declared.

As a possible remedy for the major problems of agriculture, Mr. Westcott pointed to President Eisenhower's nine-point program as outlined in the President's message to Congress. This program included a two-part soil bank program, the first of which was a voluntary deferred-production plan to reduce acreage of allotment crops in serious surplus. The second part of the soil bank proposes a conservation reserve program to take out of cultivation large areas which wise land use and sound conservation would have reserved to forage and trees.

Maryland Fertilizer Tonnage Shows Decline in 1955

COLLEGE PARK, MD.—Fertilizer sales in Maryland during 1955 totaled 310,453 tons, compared with 311,232 tons in 1954, according to the state Inspection and Regulatory Service. The 1956 total includes 271,660 tons of mixed goods.

Six grades of fertilizer containing aldrin, chlordane and 2,4-D were offered for sale in the state during 1955. The analyses were 7-11-15, 6-10-4, 6-8-6, 5-10-10, 4-8-16 and 3-9-12. Total tonnage of these mixtures was 452.

The leading grades in the state during the year were 5-10-10, 94,453 tons, 3-12-6, 42,953 tons, and 5-10-5, 26,932 tons.

Although tonnage for the year was down from the record figure in 1954, sales of 237,700 tons during the first half of 1955 were the highest ever reported for that period in Maryland.

MARKETING ORDER ASKED

BOSTON — A Federal marketing order for canned and frozen cranberries is being asked by Massachusetts' thousand or more cranberry growers on Cape Cod. The crop they are trying to market now, with a good third of it still in freezers, is the third million-barrel crop harvested in three years. Last year's crop was estimated at 1,035,400 barrels. More than half of this amount comes from the bogs in two Massachusetts counties, Plymouth and Barnstable.

OVER THE COUNTER

(Continued from page 9)

of corn in the Corn Belt averages \$25, \$35, \$45, \$55.

15. Approximately how much commercial fertilizer did American farmers use (in millions of tons) last year? 12, 16, 20, 26.

16. Contest tie-breaker—Guess the total tons of nitrogen solutions (including aqua ammonia) consumed by direct application in the U.S. during the year ended June 30, 1955.

Answers

1. True.
2. False.
3. False.
4. True.
5. False.
6. True.
7. False.
8. False.

9. True. Gustavus Ober produced the first commercially mixed fertilizer (manipulated guanos and potash salts) in Baltimore in 1850.

10. True. As reported by the National Plant Food Institute, corn receives an average of about 175 lb. of straight materials and mixed goods per acre, as compared to an over-all recommendation by state experiment stations of about 350 lb. per acre.

11. True. The U.S. Department of Agriculture credits fertilizers with at least 30% of our agricultural production.

12. The world's record corn yield is 304 bu. harvested last fall by 16-year-old Lamar Ratliff of Baldwin, Miss.

13. Alfalfa grows best at a soil pH of 6.5.

14. The production cost of an acre of corn in the Corn Belt averages \$45-\$55. The University of Illinois figures corn production costs per acre in that state at about \$58. This includes land charges (taxes and interest), labor and capital (machinery, soil improvement, etc.). Indiana and other Corn Belt states arrive at a figure closer to \$45. Because the computed costs vary among states between \$45 and \$55, we consider either answer correct.

15. USDA total for commercial fertilizer consumed in the 1954-55 fertilizer year was 22,468,000 tons. If you circled "20" you were right. (This figure includes rock phosphate and trace element materials such as borax and sulphur, but does not include lime.)

16. 349,635 tons.

A Reminder

In the mail comes a reminder in the form of a colorful poster and streamer that National Farm Safety Week will be July 22-28. Produced by the Farm Equipment Institute and distributed through the National Safety Council, the literature points out to farmers that "your safety is in your hands." The poster is one which can be used the year around and the streamer calls attention to the dates of Safety Week.

Rhode Island Soil Test Results Reported

KINGSTON, R.I. — During 1955, 3,028 soil samples were tested at the Rhode Island soil testing laboratory, according to the state Agricultural Experiment Station. This is an increase from 2,994 samples in 1954.

Results of the 1955 work showed that for phosphate 18% of the samples averaged very low, 19% low, 23% medium, 36% high and 4% very high. For potash 37% were very low, 20% low, 22% medium, 16% high and 5% very high. In pH, 9% were below 5, 46% were 5 to 5.9, 37% 6 to 6.9 and 8% above 7.

Insects Take Costly Bite from Maryland Crops in 1955

COLLEGE PARK, MD. — Insects took a multi-million slice out of income of Maryland farmers in 1955, according to University of Maryland entomologists.

Hay insects of all kinds cost state's farmers \$2 million, with alfalfa weevil alone accounting \$750,000. The alfalfa weevil is tending its range and now is considered economically destructive all counties except Allegany and Garret, the entomologists report.

Last year was the worst year record for the tobacco flea beetle the state. Losses from the flea beetle and horn worm totaled \$1,158,000.

The entomologists estimate that the corn borer caused more than million dollars in damage. The Maryland corn crop in 1955 was 18,320,000 bu., and without the borer an additional 776,000 bu. might have been turned out.

The 1955 fall infestation survey showed that the state average number of borers per 100 stalks is 140 1½ borers per stalk. In 1954, it was only 41 borers per 100 plants.

The biggest part of this big increase took place on the Eastern Shore where the average was 2 per 100 plants, compared to 55 the year before. Each borer is estimated to cause a loss of 3% in the corn yield.

The corn earworm caused heavy damage to field and sweet corn, beans and other vegetables, with losses heaviest on the Eastern Shore. The fall army worm damaged late sweet corn heavier than usual.

The unspotted tentiform leaf mine which appeared in Maryland apple orchards for the first time only recently as 1953, performed severe defoliation on many fruit trees in 1955.

Eastern Colleges To Combine Work On Farm Problems

BOSTON — Research directors of 13 northeastern agricultural schools joined forces in Boston recently for a stepped-up attack on marketing and distribution problems faced by farmers and farm groups.

The research directors of the land grant colleges and experiment stations from Maine to West Virginia set up 42 new regional farm research projects in all. Twelve of the 42 projects are directly in the field of marketing and several others are in the closely allied field of processing farm products and finding new uses for them.

The 42 projects also include new research on the control of plant and animal diseases and weed control.

All of these regional farm projects are designed to pool resources of the colleges in an effort to find answers to problems which are common to farmers from all parts of the Northeast. An example of such a regional project was the northeastern state weed identification manual completed earlier this year by Claude Phillips, head of the agronomy department at the University of Delaware.

FLOOD DAMAGE

AMHERST, MASS. — Flood spawned by hurricane Diana last August caused damage amounting to more than \$387 million in Massachusetts, Rhode Island, Connecticut, New York and New Jersey.

Costly Maryland

K, MD. — Insects slice out of farmers in Maryland

all kinds cost million, with the accounting alfalfa weevil is and now is especially destructive. Not Allegheny biologists report. The worst year for alfalfa weevil was 1954, when the alfalfa weevil caused \$1,158,000 in damage. The alfalfa weevil caused more than \$1 million in damage. The alfalfa weevil caused more than \$1 million in damage. The alfalfa weevil caused more than \$1 million in damage.

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Work Problems

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IMAGE

ASS. — Flooded the Diana last the amounting to in Massachusetts, Connecticut, and New Jersey.

Weed Problems?

Black Leaf

HAS THE SOLUTION!

WEED KILLER

2,4-D AMINE WEED KILLER

2,4-D BUTYL ESTER WEED KILLER

BLACK LEAF SELLING TOOLS

BUILD YOUR WEED KILLER VOLUME!

He's ready for the weed killer buying season!

Look at his three *new* BLACK LEAF merchandise-movers. Each one is designed to remind his customers he sells America's best-known brand of farm chemicals.

These free selling tools dig out extra sales for you, too . . .

Weed Killer Selector Wall Chart. Everything you — and your customers — need to know about weed killers and how to use them. 18 x 24 inches.

Handy Pocket Folder. All the details on BLACK LEAF Weed Killers. Chart (described above) is reproduced in smaller size. Excellent customer giveaway.

Self-Selling Counter Display Carton. Holds six one-gallon cans. Puts 'em in front of the people who need 'em. Eye-catching colors—green, red and black—match the chart.

What about advertising support? This spring's weed killer campaign is the biggest in BLACK LEAF history! The four-color, lead-off ad appears on *Successful Farming's* back cover for May.

More big weed killer ads will appear in eight other farm publications in May.

Ask your DIAMOND BLACK LEAF salesmen for these charts, folders, cartons. Order now! Don't miss the weed killer buying push. For more information, phone or write the DIAMOND BLACK LEAF sales office nearest you.

Eastern Sales Office
P. O. Box 1476
Lancaster, Pennsylvania

Western Sales Office
P. O. Box 817
San Jose, California

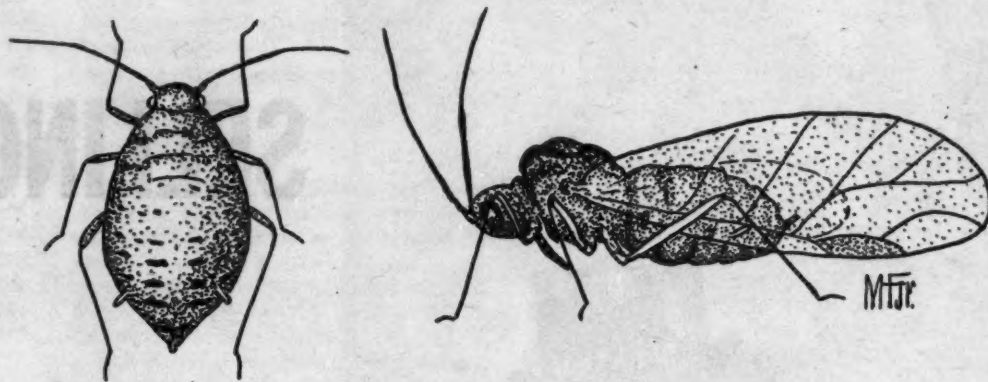
Southern Sales Office
P. O. Box 1227
Montgomery, Alabama

Midwest Sales Office
3525 Vandalla Avenue
Des Moines, Iowa

Diamond Black Leaf
COMPANY
Cleveland 14, Ohio

BUG OF THE WEEK

Mr. Dealer--Cut out this page for your bulletin board



Cabbage Aphid

How to Identify

These pests are very small in size, being frequently called "plant lice." They are usually found on cabbage plants in all stages of growth, in dense groups of whitish-green plant lice which are about the size of pinheads. The cabbage aphid, from a layman's point of view, closely resembles the turnip aphid. Entomologists, however, can distinguish between the two. Pictured above are the wingless and winged female of the species.

Damage Done by Cabbage Aphid

Leaves on which these clusters of aphids are found, curl badly into cup-like shapes with the inside surface covered with the sucking pests. Plants thus infested may die, or at best are dwarfed in size and produce cabbage heads unsuitable for marketing. The cabbage aphid occurs in many parts of the country where its host plants are grown. Its hosts include, in addition to cabbage, other plants of similar nature, such as cauliflower, collards, kale, turnips, Brussels sprouts and radishes.

Life History of the Aphid

The reproductive capacities of this aphid are truly phenomenal. One scientist, figuring on the basis of New York state conditions which allow some 16 generations of aphids between March 31 and October 2, the descendants of one female aphid, if all should live, would number in the septillions by the end of this 6-month period (1,560,000,000,000,000,000,000,000). It is pointed out that this number might be doubled in climates where a longer season is available.

Small nymphs hatching from eggs in the spring quickly attain full size, but have no wings. These are all females, called "stem-mothers," and they can reproduce young without mating. These young are also wingless and they in turn produce up to 100 active nymphs within a few weeks. Thus, several generations of aphids form a cluster about their mothers on the plant until leaves become crowded with the parasites. Subsequent generations do develop wings, enabling their owners to fly to other plants. They settle on the new host plant and begin a new series of generations. As the season draws to a close, an all-winged generation is usually produced, which includes some males whereas heretofore in the season, all were females. The winged females, termed "fall migrants," are able to get to a perennial plant where they give birth to nymphs which grow into wingless females. These in turn mate with the males of the preceding generation. These females, after having mated, lay up to four eggs in some sheltered spot on the plant and die shortly afterwards. The eggs will hatch stem-mothers to start an entirely new cycle.

Control Methods

Since the host plant, cabbage, is a leafy variety for human consumption, any pesticide used for control of the aphid must be applied within carefully prescribed limits, both as to timing and amounts of toxicant, in order to avoid the possibility of excessive residue at harvest. Local authorities should be consulted as to recommended methods and materials.

Drawing of Cabbage Aphids furnished Croplife through courtesy of the artist, Marvin H. Frost, Jr.

Previous "Bug of the Week" features have been reprinted in attractive 24-page booklet, priced at 25¢ single copies; reduced rates in quantities. Write Croplife Reprint Dept., Box 67, Minneapolis 1, Minn.



FARM SERVICE DATA

Extension Station Reports

Profitable yields of high-quality peas for freezing or canning are possible on many New York soils if a few well-proved practices are followed in growing the crop, says Charles B. Sayre, Cornell canning crops specialist at the Experiment Station at Geneva, N.Y.

Fertile, well-drained soils, early planting, proper use of fertilizers, use of chemically treated seed, and harvesting at the best tenderometer reading, all are factors in profitable pea production, he states.

"Well-fertilized peas not only yield much better but also remain in a fancy grade longer than poorly fertilized peas," says Mr. Sayre. On sandy soils an application of 400 lb. of a 10-10-10 fertilizer has proved best. On loam soils, 600 lb. of an 8-16-8 will give best results."

Fertilizers should never be drilled with pea seed, but rather drilled alone after the soil is fitted and before the peas are planted, he said. Chemical seed treatments have increased field stands of peas by as much as 50% over untreated seed, says the scientist. A planting rate that provides about 20 seeds to each row of drill gives the best returns. This means seeding at the rate of 12 to 20 pecks to the acre, depending on size of seed.

Much can be done to insure high returns from peas by harvesting at the right maturity, in the opinion of the scientist. A tenderometer grade of 91 to 95 will prove most profitable for peas grown for the freezer, while peas harvested at tenderometer grades of 96 to 105 will bring best returns for canning peas.

★

When insects feeding on forage crops are abundant, control of these pests gives substantial increases in yield, according to the Connecticut Agricultural Experiment Station. Records show, for example, that control of the potato leafhopper on alfalfa gave an average increase in yield of 25.3% for the combined second and third cuttings in 1953 and 1954.

R. J. Quinton reports on the forage insect problem in Circular 197 of the station. He points out that evaluation of the problem was impossible until development of effective new insecticides to keep plants free from pests.

The Connecticut field surveys in 1953 and 1955 turned up 56 different kinds of insects reported to feed on legumes or pasture grasses. Of this group, the tarnished plant bug, meadow spittlebug, potato leafhopper, pea aphid, clover leafhopper, clover root curculios, and the minimal and irrorate leafhoppers were taken in the greatest numbers.

Injury from these and other insects may not be conspicuous, Dr. Quinton points out, but the steady drain on the plants through the attack of many insects may cut both yield and quality of the crop.

★

The use of fungicides for control of apple scab has had no bad effect on pollination and fruit sets, according to Dr. Avery E. Rich, New Hampshire Experiment Station. He concludes, on

the basis of orchard and greenhouse tests, that none of the five most-used fungicides, captan, dichlone, ferbam, glyodin and sulfur, seriously reduces pollen germination or fruit set when sprayed on apple trees in bloom.

★

Added emphasis is being given this year to the use of ground limestone by farmers in Massachusetts through the Agricultural Conservation Program, following an all-time low on a tonnage basis in 1955.

Practices formerly made it easy to provide lime for soil to all farmers, states Harold F. Tompson, state administrative officer for the Agricultural Stabilization and Conservation Office, Amherst.

However, in 1954, the Agricultural Conservation Program was so changed that it became difficult to interest farmers in the use of needed amounts of lime. This year, several counties have increased the federal cost-share for lime and this change has shown its effectiveness with requests for lime already far beyond those for all of 1955.

Also responsible for the stepped-up lime program is the adoption by several counties of a special practice which links the use of lime with fall and winter cover crops. This new practice gives row crop farmers a chance to get lime on their land with the assurance that cover crops will protect the soil in the fall and winter to plowing time in the spring.

Most light soils lose the equivalent of 500 lb. lime per acre per year just by leaching, Mr. Tompson said. When cropland farmers increase the "loss" of lime through crop production, added lime must be supplied. Often the key to best results from crop production, lime increases the efficiency of commercial fertilizers, Mr. Tompson said. It provides soil conditions suitable to healthy plant growth, causes the plant food tied up in organic matter to be released most efficiently for crop growth, and tends to make soils mellow rather than too hard.

★

Chemical treatment of soybean seed before planting can often help bring better stands and higher yields, according to Henry Indyk, University of Delaware agronomist.

Experimental tests have shown that chemical treatment of the seed increases the germination rate and stand-survival of the plants in the field, he said. This is especially true where cool, moist soil conditions cause the kind of damping-off which frequently kills young seedlings.

Cost of the material for treating enough seed to plant an acre is only about 10 to 12 cents.

★

Agronomists at the West Virginia University Agricultural Experiment Station are conducting experiments with corn, investigating the effect of increased plant populations on yield and other growth performance factors. The usual rate of seeding corn on many West Virginia farms is from ten to twelve thousand plants per acre. Tests have been run at the Experiment Station with seedings as high as 24,000 plants per acre.

Several experiment stations have conducted trials with an increased

number of plants per acre, and found that increased yields usually can be obtained by increasing the planting rate to from fifteen to eighteen thousand. The Illinois Experiment Station reports that the highest yields in their trials were obtained on a very fertile field planted to 16,000 plants per acre. They, and other experimenters, have found that ear size tends to decrease as the number of plants per acre is increased.

In the WVU trials, the agronomists set up a plan for testing five hybrids. The first trials were conducted in 1950, and have been conducted each year, with one crop year not considered due to adverse farming conditions. The plots used were high in fertility, and received an equivalent of 1,000 pounds of 10-10-10 fertilizer per acre. High fertility was maintained throughout the trials, so that nutrient deficiencies would not influence results of the test.

Results of the four-year trials show that best yields are obtained when the plant population is between fifteen and eighteen thousand per acre. The agronomists point out that maximum yields are usually obtained when ear size averages one half pound per ear, and this size usually occurs when the plant population is about 17,000 per acre.

The researchers point out that seeding rates must be higher than the plant population desired, because an average of 20% of the seeds are lost due to non-germination.

★

Chemical weed killers do not last long in the soil after their work is

done. They are destroyed fairly rapidly by bacteria with no damage to soil organisms, according to research at the Agricultural Experiment Station, the Pennsylvania State University.

Where the soil is fertile, bacteria have no trouble destroying the left over organic herbicides, studies show. In fact, frequent use of weed killers on good soil tends to build up bacteria which destroy the weed killers when they reach the soil.

Tests of organic weed killers began at Penn State about five years ago. Scientists wanted to know whether the new organic herbicides would destroy valuable bacteria in the soil. Research also shows there are no poisonous by-products left in the soil.

Dr. J. J. Reid of the Penn State department of bacteriology said that certain soil organisms on poor ground will be temporarily depressed by some herbicides. However, valuable bacteria soon build up again.

★

A control for pine leaf aphid has been developed by research workers at the Vermont Agricultural Experiment Station.

Dr. William R. Adams, professor of forestry, reports in Station Bulletin 582, "A Control for Pine Leaf Aphid," that a miscible oil spray will destroy the aphids. It should be applied when the larvae begin to migrate from the year-old needles to the new branch shoots of white pines. The operator can use this spray, diluted one quart of oil to 32 quarts of water, without hazard of irritation or poisoning, Dr. Adams said.

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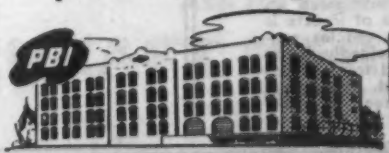
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CROPLIFE, May 14, 1956



Doing Business With

Oscar & Pat



When Oscar came home that evening, after a very hard day in the store, he smelled the rich odor of pigs knuckle and cabbage. He sniffed appreciatively, and for a moment, the frown on his face softened a little, for he loved to eat, especially German dishes. Although Oscar was born in America, his parents had come from Germany and settled in a German area, and they, as well as Oscar, had never quite eliminated German expressions and inflections from their speech.

"Ach, Minnie," Oscar said, taking off his jacket and hanging it on a hall tree with a carved elk head on top, "it's a good thing you have dinner ready. I will have to go back to the store again this evening. We are so busy filling orders for fertilizer and seeds, that it will take all of us to handle things."

"Oh, that's good, Oscar," beamed Minnie, her black hair done in a knot at the back of her head. "More business is what you want, isn't it?"

"Nein, not that kind of business," snapped Oscar sitting down at the round dining table made of oak. He unfolded the white napkin, and spread it carefully over his knees. "What is the use of selling, selling and selling fertilizer, when you don't know if the people can pay or not?"

"Oh?" said Minnie apprehensively. She knew what was coming.

"That Pat!" growled Oscar between mouthfuls of delicious meat from the big pigs knuckle. "He is so crazy to sell, that he just takes one order after another, with a big smile on his face. He pays no attention to credit. Today he sold fertilizer to people who still owe us money from last summer."

"But they all pay sometime, don't they?" asked Minnie. "You are in business now, you and Pat, for eight years. You would not be, would you, if the money didn't come in?"

"Thanks to me, it comes in," Oscar

said, spreading some apple butter on apple kuchen. "I keep after him so much about collections I could scream."

"Well, don't worry about it when you eat, Oscar," Minnie said. "Here is the weekly paper. Maybe you want to read it while you eat."

Grumbling Oscar took the paper. "I have not seen it yet, we are so busy. I wonder what Pat has put in the ad this week?"

He opened the paper and began looking up and down the columns. On page four was the weekly ad for Schoenfeld & McGillicuddy. Oscar choked on his third piece of kuchen. "Ach, du lieber Gott!" he exclaimed.

Minnie rushed in from the kitchen where she was warming the coffee again. "What's the matter, Oscar?"

Face red, Oscar pointed a chubby, shaking finger at a quarter page ad. "Is das nicht genug?" he shouted. "Pat has gone crazy. Here he runs an ad all about how farmers can make money on their woodlands. We don't

sell lumber, that fool. We sell fertilizer and insecticides!"

Minnie shook nervously as she always did when her lord and master thundered in anger. "B—but," she said, trying to soothe the troubled waters, "he says down at the bottom of the ad that we sell fertilizer at reasonable prices and that we sell the bag, or spread in bulk and all have anhydrous ammonia."

"It should be at the top of the ad," Oscar snorted, putting one extra teaspoon of sugar into his coffee. "He should take up all of the ad. The stuff about wood lots. He should throw that out!"

"He must have a reason for it," Minnie ventured placatingly. "He tells about some farmer south of here who made \$1,462 from 25 acres of farm woodland in the past seven years."

"I don't care how much the farmer made from wood lots!" Oscar almost shrieked. "Why doesn't he stick to fertilizer? Ach, will I have to write the advertising for this company, to besides watching the pennies, saving everything I can and holding Pat down? It gets worse everyday."

"It says here," Minnie went on patiently. "That nowadays there are many ways a farmer can make money—on woodlots, soil conservation practices, on diversified crops, and by using the best kind of fertilizer and insecticides in season."

"I still say the fertilizer should come first!" Oscar contended stubbornly. "Let the lumber dealer worry about the wood lots, not us."

"It says here, too, that this is just the first of some weekly message that will try to point out to farmers how they can make this extra money," Minnie said slowly.

"I won't let him do it," Oscar said after he had drained the coffee cup. "If he wants to educate the farmer so bad why doesn't he resign from the business and try to become the county agent?"

"I am going right back to the store now and stay till closing time. If I don't, maybe he will give the whole place away."

Minnie wrung her hands. Night she always worried about these daily quarrels with Pat. Nights she knew that Oscar turned violently in his dreams, yelled in his sleep about collections, foolish ideas and many other things. One night she stopped him from pounding a hole in the plaster wall with his fists.

"Oscar," she pleaded, as she saw the stubborn look deepen on her husband's face as he put on his jacket, "remember, you and Pat balance each other. You are careful, and he is wild."

"Ach," Oscar snapped, as he went out the door, "he used to be wild. Now he is crazy. Ach, I am the one who is in balance. I always know what I am doing and working for—ourselves!"

Soil Bank to Have Little Effect in Vermont

BURLINGTON, VT. — The announced soil bank proposal likely will have little direct effect on Vermont. A. F. Heald, Vermont administrative officer, Agricultural Stabilization and Conservation Service, said at a recent farm credit conference at the University of Vermont here.

He said that no Vermont farmer would be eligible for the acreage reserve feature, since there are no allotment farms in the state.

Because a farmer must reduce his total acreage of grain and row crops by an acreage equal to that placed in the conservation reserve feature, participation in that phase will likely be limited in Vermont, Mr. Heald said.

Books on Pesticides

WEEDS—Second Edition (1955)

W. C. Muenscher

Entire book has been revised and reset, with descriptions of seventy weeds added to the original list of five hundred, plus twelve new full-page plates depicting nineteen kinds. Keys and full descriptions provided for identification with detailed illustrations of 331. Types and sources of weeds, their means of reproduction and dissemination, and the amount of damage they inflict on crops. Specific directions for control, with reference to chemical methods of recent discovery \$10.00

CHEMICAL BUSINESS HANDBOOK

Dr. John H. Perry

1,300 double column pages, the equivalent of several average books; 700 illustrations, by 124 contributors. Market research data section is 280 pages, business mathematics 200 pages, financial and accounting 142 pages, research and development 150 pages, sales and advertising 92 pages, twenty sections in all. The book deals with chemical management problems and is useful to technical men, engineers and executives, in the chemical and allied fields. Dr. Perry is editor of the Chemical Engineers Handbook, a companion publication \$17.00

DDT and NEWER PERSISTENT INSECTICIDES

T. F. West and G. A. Campbell

The first and major part of book is devoted to the physical and chemical properties, manufacture, formulation and applications of DDT. The second part deals with other chlorinated hydrocarbons whose insecticidal properties have been discovered recently and compares these new insecticides with DDT. The preparation of aqueous suspensions, solutions, emulsions, and dusts containing DDT, the compatibility of DDT with other insecticides, fungicides and additions are covered in detail. Contains dozens of tables on the solubility of DDT in various solvents, the catalytic activity of accessory substances in the presence of DDT, analogues of DDT, the comparative toxicity, hydrolysis and solubility of DDT analogues, the toxicity of DDT for almost all important insects, etc. Many illustrations \$8.50

APPLIED ENTOMOLOGY, Fifth Edition

H. T. Fernald and Harold H. Shepard

This text since 1921 has had an outstanding record of usefulness. The Fifth Edition preserves the general organization and coverage, with changes to improve the presentation and to incorporate new knowledge. Contains chapters on anatomy, physiology and development. The economic importance and control of insects are discussed in a general way with much attention to insecticides. The classification of insects is emphasized, with examples drawn from species conspicuous for being very harmful or decidedly beneficial. Specific control measures included for injurious forms. Last chapter considers other pest animals closely related to insects. 385 pages \$7.00

THE GARDENER'S BUG BOOK (1956)

Dr. Cynthia Westcott

The Complete Handbook of Garden Pests and their control. Information, scientifically accurate but easy to read on 1,100 insects, mites and other animal pests that attack trees, shrubs, vines, lawns, flowers, fruits and vegetables in home gardens. Illustrations in full color. Control measures combine the latest in chemical developments with time-honored cultural measures. Helpful to all who serve the general public and to truck farmers and fruit gardeners. 579 pages, cloth bound \$7.50

THE CHEMISTRY AND ACTION OF INSECTICIDES

Harold H. Shepard, Entomologist, U. S. Department of Agriculture, formerly Associate Professor of Insect Toxicology, Cornell University.

Treats the chemistry of insecticides, the history of their use, their commercial importance here and abroad, the nature of the major uses, the influence of environment on effectiveness. Materials are arranged according to their chemical relationships. Two chapters relating to organic compounds largely new as insecticides. Illustrative data in form of tables, and a convenient appendix of equivalents arranged for practical use in the field. 504 pages \$7.00

WEED CONTROL

W. W. Robbins, A. S. Crafts, and R. N. Raynor

A textbook-manual presenting a modern view of the rapidly developing field of chemical weed control. Reports in detail the research on which most modern herbicide usage is based. Weeds, their reproduction, prevention, biological control, chemicals in weed control. Herbicides, foliage contact applications, hormone-like substances, root applications, evaluations of combinations of chemical applications. Weeds of grasslands and turf. Special weed problems, cropped and uncropped areas. Published 1952. 503 pages, 155 illustrations \$8.00

INSECT, FUNGUS AND WEED CONTROL

Dr. E. R. de Ong

The information is grouped according to field of application rather than to chemical composition or nomenclature. Chapters on insecticide label, seed disinfectants, herbicides, forest insects and diseases, livestock insects, and the pests found in household and industry. Fumigation of warehouses, residual sprays and preservatives for fruits, vegetables and wood products are covered. An up-to-date guide on pest control with the needs of operators, agricultural and structural specialists carefully considered. Shippers and warehouse personnel will find the book useful \$10.00

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Borax Consolidated Ltd. to Transfer U.S. Assets to New American Company

NEW YORK—The directors of Borax Consolidated, Ltd. have announced in London that following the plan they have been making in cooperation with their financial advisers, they have decided to form a new company in the U.S. to take over the greater part of the company's assets and operations in America. The consent of the United Kingdom Treasury to this transfer has been granted.

Completion of the transfer of these assets, expected shortly, will bring to an American corporation the company's boron deposits located at Boron, Cal., and factories for the production of borax, boric acid and numerous inorganic and organic boron compounds.

The existing company has now under way a program of expansion and modernization at Boron, involving conversion of its mining method to an open pit process and securing a substantial increase in manufacturing capacity.

This program, which is expected to be completed in the second half of 1957, is estimated to cost approximately \$18,000,000. To finance this program, provisional arrangements have been made with Equitable Life Insurance Society of New York, Chase Manhattan Bank, New York, and Farmers and Merchants National Bank, Los Angeles, for a 20-year loan to \$16,000,000. In addition, arrangements have been made for an American group headed by Lazard Freres & Co., New York, to make an investment of approximately \$7,000,000 in the stock of the new company.

In their letter to stockholders the directors have declared that, in their opinion, it is of great importance to the future growth and development of the new American company that a group of leading firms in the U.S. closely and actively associated with it, and they have announced that members of the New York houses Lazard Freres & Co., F. Eberstadt Co. and Lee Higginson Corp. and a representative of the Rockefeller interests have agreed to join the board of the new company.

The directors have also announced that preliminary conversations are taking place with officers of the U.S. Potash Co. With a view to the possible merger of the U.S. Potash Co. and the new American company through an exchange of shares. (See Page 1 of the May 7 issue of CROPLIFE.)

H. M. Albright, president of U.S. Potash Co., said that Borax Consolidated

dated Ltd. has for many years held a substantial stock interest in the U.S. Potash Co. (at one time 50% of the company's common stock), and was largely responsible for financing the development of the potash company's mining and refining operations in the early 1930's.

Currently the potash company is completing a further expansion of its plant at Carlsbad, N.M. at a cost of approximately \$3 million. It has also conducted exploratory operations in the recently discovered potash fields in the Saskatchewan Province of Canada.

Assurance has been given, in case the merger becomes effective, that the potash organization would continue to function and that the potash interest would be represented on the board of directors of the American company.

Animal Agriculture Group Hears Talk On Farm Problem

LAFAYETTE, IND.—Dr. Herrell DeGraff, Babcock professor of food economics at Cornell University, said at Purdue University recently that the only good agricultural program is one good for all interests.

Speaking at the final session of the sixth annual conference of the National Institute of Animal Agriculture attended by 250 of the nation's farm leaders, Dr. DeGraff said four groups—producers, processors, consumers and legislators—have an interest in agriculture.

The economist said the farm situation is a result of price tampering since 1929. "When we started to 'play with prices,' we created surpluses," he said. "After 30 years, we have reached an economic impasse. The situation has come to a head in 1956 because of enormous surpluses, a combination of cyclical peaks in

swine and cattle marketing, and the fact that it's an election year."

Speaking at a luncheon, Dr. F. L. Hovde, president of Purdue, said that he hoped there would always be an economy of abundance rather than an economy of scarcity. He continued by saying that he realized that a surplus of food proposed a problem but surpluses of food are always temporary since food production is so dependent upon the elements.

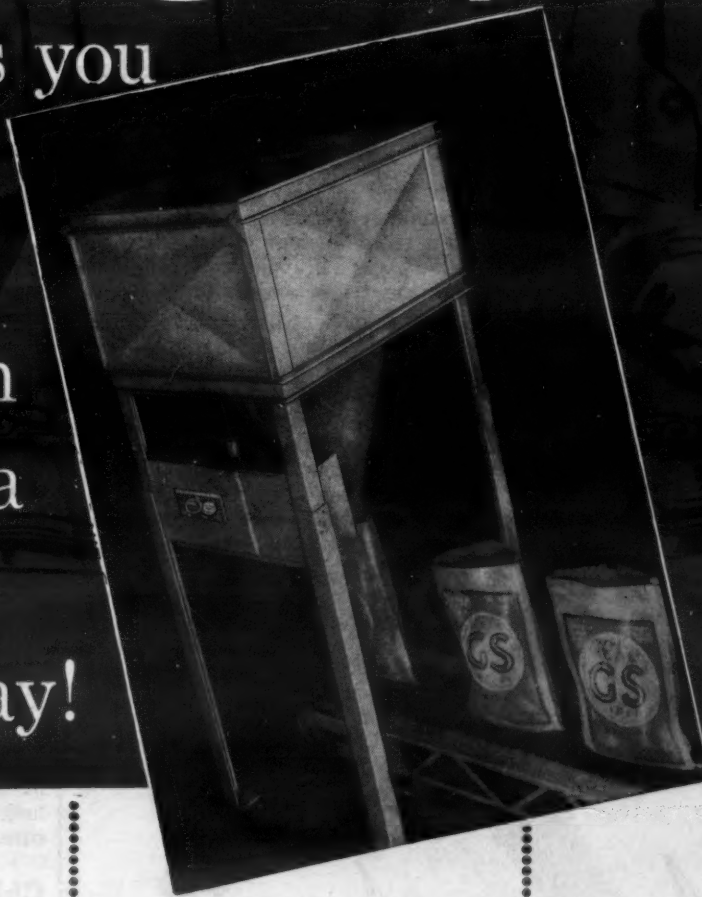
The Purdue president concluded by calling attention to the importance of research for agriculture. "We must not stop research in agriculture, for research in agriculture is just as important as research for industry," he said.

AGRONOMIST NAMED

STATE COLLEGE, N.M.—New Mexico A&M College has appointed William S. Jackson as associate extension agronomist to work with the soils problems of farmers in Chaves and Eddy counties. Mr. Jackson will be stationed at the Southeastern Substation in Artesia.

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Fertility Study on Pasture Land Planned

CORVALLIS, ORE.—A two-year fertility study aimed at increasing pasture yields on Willamette valley hill soils has been announced by the Oregon State college agricultural experiment station with a \$4,000 grant from the American Potash Institute.

Response of subterranean clover to phosphorus, potassium and magnesium applications will be measured on 10 pasture plots scattered throughout the valley, according to T. L. Jackson, OSC soils scientist and project leader. Dale Cooper, graduate research assistant in the soils department, will work on this project as part of his graduate program. Preliminary findings by the OSC testing laboratory show that about 25% of Willamette Valley soils need potassium for pasture crops. Clover yields from test plots will be checked against soil tests and analysis of plant leaf tissue to determine the most economical fertilizer applications.



WORLD REPORT

By **GEORGE E. SWARDBRECK**
Cropplife Canadian and Overseas Editor

Millions of board feet of timber are destroyed annually by forest insects. Suffering heavily from this infestation is Canada, and to combat the destruction forest entomological laboratories have been established in all of the country's timber producing provinces. Good progress has been made but it is hoped that the exchange of ideas at the coming World Congress of Entomology, to be held in Montreal during August, will add to the knowledge of the subject.

Extensive killing of trees by leaf eating insects such as the spruce budworm is the most conspicuous type of damage caused by forest insects. Epidemics of this nature may be so widespread and resulting tree mortality so great that it is impossible to salvage dead timber before it begins to deteriorate.

Wood beetles and ambrosia beetles, aided by sap rotting fungi, cause rapid deterioration of standing dead trees. This increases the difficulty of carrying out profitable salvage operations. The establishment of plantations of healthy, well formed trees is also retarded by insect infestation. Common damage, resulting in deformities and stunted growth, is caused by such pests as the white pine weevil, and European pine shoot moth.

Research

Canada is a leader in the field of forest insect survey. The information gathered supplies a continuous record of infestations and their periodic fluctuations in all parts of the country. Much work has been done in aerial spraying, particularly in the Maritime provinces and in Quebec. Close cooperation between industry and science is solving many of the problems and promoting good forest conservation. The export of timber is important business for the Canadians.

That is why they are looking forward to the Montreal congress because there the work done in Canada can be compared with that accomplished in other timber-producing countries.

Rust Control

It's beginning to look as if rust, the curse and master of many a western wheat field, is an enemy that can be beaten with modern chemical weapons. That, at least, is suggested by the promising results

of field trials conducted in Manitoba last year which show that durum wheat can come through 15-B rust attacks relatively unscathed when sprayed with one of the new fungicides.

The farm tests, a co-operative venture undertaken by government agricultural representatives, rust research personnel and the Du Pont Company of Canada Ltd. paralleled similar investigations in U.S. wheat areas and followed a series of small-scale tests conducted over the past four years.

Stands of rust-susceptible varieties of durum, at four different locations in southern Manitoba, were selected for the chemical spray program. Test plots and neighboring untreated "control" plots were each one-eighth of an acre in size. Although a hot, dry summer kept last year's rust invasion from becoming epidemic, the disease was prevalent enough to make the trials worthwhile.

The researchers had an eye on the life cycle of the rust spore when they planned their spray campaign. Spores developed in the winter wheat fields of the U.S. travel northward on the prevailing winds through Kansas, Nebraska and the Dakotas, arriving in southern Manitoba and southeast Saskatchewan about June. Showering down on cereal crops like a deadly rainfall, the rust spores, tiny fungus organisms, attach themselves to leaves and stems, later entering the breathing pores of the plant to rob it of its proper nourishment and cripple its grain production. Rapid reproduction of the rust germ in the host plant, together with further

airborne arrivals, spreads the disease with uncanny speed. Providing the plants with a chemical overcoat that would kill the spores on contact was the idea behind last year's program.

Water-based sprays of fungicide, applied early in the season before the annual rust showers began, covered each test plot with the spore-destroying chemical. A "spreader-sticker" compound in the mixture helped give uniform protection that remained anchored to the plants.

Conventional weed-type sprayers equipped with large capacity nozzles and operated at increased pressures produced the volume of spray required. A second spraying was carried out after a short interval in order to maintain the chemical's effectiveness. If weather conditions had been favorable for the rapid development of rust, one or two more follow-up sprays would have followed during the month-long danger period.

A careful check was kept on all pertinent aspects of the treated grain and later compared with like information obtained from the rust-damaged "control" plots. Almost without exception, the treated grain rated higher in such categories as yield, weight per bushel, grade, germination and milling characteristics, as well as in the net cash return per acre.

In milling tests of samples from the treated and untreated plots, the treated grain exhibited no difference in the quality of flour, bread or macaroni produced. The treated samples were equal in flour protein to the control samples, although slightly lower in wheat protein. In diastatic activity and gassing power, the samples were similar. Generally, the quality of the treated wheat was higher as shown by bushel weight, grade and thousand-kernel weight.

Further tests with the fungicide during the coming season, as well as full-scale applications by growers, are planned.

Swiss Insecticides

The insecticide and fungicide industry is making rapid progress in Switzerland, according to trade sources. Developed only between the two wars, the industry is now assuming considerable importance in export markets and other sellers are beginning to feel the competition.

Aiding progress was the action of the Swiss government in encouraging intensive cultivation of farm land and this, in turn, led the scientists to pay greater attention to agricultural aids. Many efficient insecticides originated in Switzerland and more will be heard of that country in the agricultural chemical export field.

Chilean Bill Passed

President Carlos Ibanez has signed the bill designed to overhaul Chile's nitrate industry. (Cropplife, May 7, page 7.)

The industry has suffered severely from the competition of synthetic fertilizers, and the producers called upon the government to give them better exchange rate, taxation and investment treatment. The new law provides all of these things, and the opportunity is now presented to rehabilitate the industry.

Chilean production is currently around 1.5 million tons of nitrate a year. Plans are now being made for a rapid expansion program with the use of the solar evaporation process and complete modernization. The Export-Import Bank has completed arrangements for a loan of \$25 million.

Other plans call for the manufacture, purchase and sale of by-products from the vast nitrate operations in northern Chile, the mechanization of loading at the port of Tocopilla, research work, and adjustments in accounting to give the government more participation, but at the same time holding costs down.

Treatment of Wood With Preservatives Shows Gain in 1955

WASHINGTON—Volume of wood treated with preservatives in 1955 increased 3% over the preceding year according to reports from 300 of the known wood-treating plants in the nation, the U.S. Department of Agriculture has reported.

This preliminary report was compiled by USDA's Forest Service with the cooperation of wood preservative plants and the American Wood Preservers' Assn. The plants report represent about 95% of the output of the wood preservation industry. The report includes establishments using pressure treatment or standard hot and-cold bath, non-pressure treatment but does not include data on dry spray or brush treatment, nor farm and home use of preservatives.

In 1955 an estimated total of 25,180,350 cubic feet of poles, crossties, lumber, timbers, fence posts, piling, switch ties, crossarms, wood blocks and the like were treated with preservatives. This compares to 25,066,697 cubic feet treated in 1954.

The volume of poles treated increased from 63,873,388 cubic feet in 1954 to 90,090,714 cubic feet in 1955. The volume of crossties, on the other hand, decreased from 105,529,303 cubic feet to 85,983,680 cubic feet.

The use of pentachlorophenol as preservative increased 18% in 1955 from 8,340,997 lb. to 9,879,188 lb. The use of creosote dropped 3% from 168,580,155 gal. in 1954 to 159,848,700 gal. in 1955.

Premerge Cleared by USDA for Use on Mint

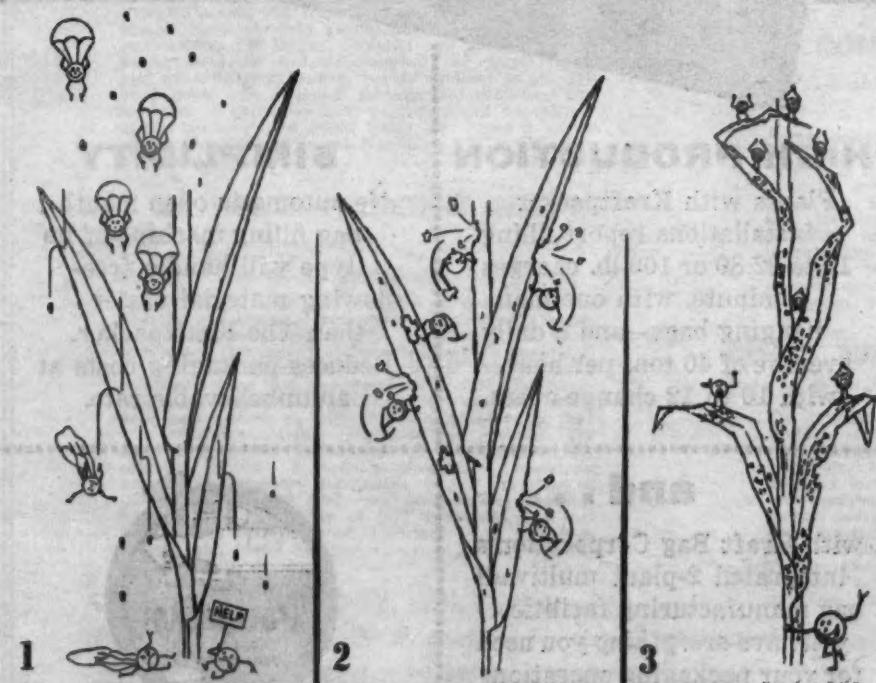
MIDLAND, MICH.—Dow Chemical Co. has announced that use of its herbicidal product, Premerge, for weed control in mint has been cleared by the registration unit of the pesticide regulation section of the U.S. Department of Agriculture.

The company reports that tests conducted by large commercial buyers of mint oil have shown that this method of weed control has no harmful effect upon quality. It adds that "extensive analytical research on mint oil from both spearmint and peppermint grown in fields treated with Premerge has shown that when used in accordance with the manufacturer's recommendation there is no residue of the chemical in the mint oil."

The product is a dinitro weed killer formulation which controls weeds by contact action and by residual soil effect, for a period of from four to six weeks. Its manufacturers state that it does not contaminate the soil by build-up following repeated yearly treatments, and that it is being used commercially on other crops including potatoes, beans, soybeans, corn, peas, alfalfa, clover, and several bulbs.

Several years have been spent in field research to find a better way for mint growers to control weeds which can lower the oil quality of the harvest. Such weed infestations not only decrease yield in a particular year but also tend to reduce the number of years during which a mint planting is profitable. Moreover, meadow mint can be cultivated only at the start of the growing season or following harvest.

In applying the herbicide, a broadcast delivering spray pressures from 10 to 70 lb. can be used. As an over-spray, 1.5 gal. Premerge is recommended per acre in 25 to 40 gal. water, applied to the field just before or just after the mint emerges. Broadcast control has come where the soil is moist at time of application, or if application is followed by normal rainfall or irrigation.



RUST ACTIVITY—1) In initial wind-borne invasion, rust spores shower down on cereal crops. If plant has a coating of spore-killing chemical, rust germs are killed on contact. 2) Rust spores that have landed on unprotected plant dig into the breathing pores, multiply and throw out new colonies. If fungicide is applied at an early stage in rust development, further spread of the disease can be arrested. 3) When nothing is done to combat rust, it infects the entire plant, sapping its strength and reducing the quantity and quality of grain produced. If the attack is severe, the entire plant is wrecked.



Bruce Walsh C. L. Cousins

Baughman Manufacturing Names Western, Eastern Sales Engineers

JERSEYVILLE, ILL.—C. L. Cousins has been appointed by the Baughman Manufacturing Co. of Jerseyville, Ill. to represent the company in the western district sales engineer—the territory west of the Mississippi River and east of Denver.

Mr. Cousins was formerly with Allied Builders Supply Co. of Springfield, Ill., and is a graduate of the University of Missouri.

Bruce Walsh has returned to the Baughman eastern sales division as eastern district sales engineer. He formerly worked in the eastern territory and was transferred to the western division in 1952.

Activities of both men will cover the complete Baughman line, which includes fertilizer spreaders, bulk bodies, bulk handling transports, control spreaders, conveyors and elevators. They will cover their territories in Baughman planes.

Michigan Chemical Officers Re-elected

SAINT LOUIS, MICH.—At the annual stockholders' meeting of Michigan Chemical Corp. in Saint Louis, Mich., April 20, the following members of the board of directors were re-elected:

T. C. Davis, president, Centennial Development Co.; J. D. Frost, president, Blanchet & Co.; Arthur J. Fushman, senior vice president, Manufacturers National Bank of Detroit; Donald MacFarlane, attorney, Barbier, MacFarlane & Tolleson; Theodore Marvin, chairman of the board and president; J. H. McMullen, McMullen & Hard; Clyde H. Reerne, president, the Udyllite Corp.; F. L. Van Kennep, executive vice president and treasurer, Castleton, Inc., and chairman of the board of Infra Electronics Corp.; and W. F. Mitchell, general manager, chemical division, General Mills, Inc. Hugo W. Krave, a director of Wayne-Oakland Bank, Detroit, was elected the tenth director.

At its annual organization meeting the board of directors re-elected Mr. Marvin, president and chairman of the board; Fred A. DeMaestri, vice president; R. J. Knapp, secretary and treasurer; and Josephine M. Curtiss, assistant secretary and assistant treasurer.

Drilled Fertilizer Pays in Rice Experiment

SACRAMENTO — Colusa County rice growers recently were told that fertilizer drilled into the dry rice seed bed before planting makes for increases in production as compared to an undrilled surface application.

A report was presented stating that three years of tests carried on at the Biggs rice station show nitrogen fertilizer drilled into the seed bed 2 in. deep brought the greatest yield increases, 40%. Drilling the fertilizer 4 in. deep resulted in a 7% increase.

Broadcasting the fertilizer on the water brought about the smallest increase of 8%. Broadcasting on the dry seed bed prior to seeding resulted in a 19% increase, and broadcasting on seed bed and disking produced yields 25% higher.

Gloomicides

A group of men, including a minister, was out hiking one day when they got lost. They wandered around for many hours, becoming terribly exhausted, and then they talked of splitting their party into several groups, with the thought that some of them might reach safety and organize rescue crews for the balance. Then one of the men turned to the minister.

"Do you think we'll get out, Reverend?" he asked.

"I'm praying hard," was the minister's answer.

"Let's stick with the preacher, boys," said the man to his companions. "I think he's got connections."

★

People will gamble on anything. Now they're beginning to save money on the chance that it may be valuable again some day.

★

A good driver is not just one who obeys traffic rules, but one who is quick enough to dodge those who don't.

★

Know how to tell when you've reached middle age?

To answer this it takes no sage; You've reached middle age, my friend, when your middle Simply ain't no longer liddle.

★

"Back already, Mrs. Olson! It must have been quite expensive abroad?"

"That wasn't why I came back. My husband sent more money than I asked for, so I began to wonder . . ."

★

We don't think it's so far-fetched that Washington didn't tell lies. For one thing, he didn't play golf.

★

A clothing store received this letter from a customer who had ordered a maternity dress.

"Dear Mr. Store Sir: Please cancel that order for my dress size 44 which you was going to deliver to me. My delivery was faster than yours. Respectively, R. S."

★

A Bismarck, N.D. husband has plans for a new home. One door of the double garage will be painted "Hers"—the other one "His." "Hers" is two feet wider.

★

A famous novelist's agent wore a deep frown all the evening. Finally the novelist asked what was troubling him.

"It's a dream I had last night," the agent said. "I dreamed that you wrote a novel that was chosen by the Book-of-the-Month people, sold over a million copies, and was bought by MGM for \$50,000."

"What's so terrible about that?" asked the novelist.

The agent shook his head sadly. "I woke up," he said, "just before I collected my 10% commission."

★

Irritated old lady (in bus, to sniffling youngster): "Little boy, have you got a handkerchief?"

Little boy: "Yes, ma'am, but I don't lend it to strangers."

★

He: "I want to know if I have grounds for divorce."

Lawyer: "Are you married?"

He: "Of course."

Lawyer: "Well, then you have grounds."

★

"Can you help me," petitioned the sleek customer, "select a gift for a wealthy old aunt who is awfully weak and can hardly walk."

The astute clerk considered, then suggested, "How about some floor wax?"

G.L.F. to Sponsor Crop Demonstration Program in Pennsylvania

ITHACA, N.Y.—Seven Future Farmers of America Chapters in Potter and McKean Counties will pioneer a crop demonstration program this year for chapters of Pennsylvania.

By actually growing crops on contrasting plots, chapter members will illustrate the value of recommended farming practices to themselves, to farmers and to other students.

A crop demonstration committee has approved plans submitted by chapters of high schools in Austin, Coudersport, Galeton, Harrison Valley, Shinglehouse, Smethport and Ulysses.

The demonstration program is sponsored by Cooperative G.L.F. Exchange. Up to \$30 of free materials are provided for demonstrations by local G.L.F. service agencies, and prizes are awarded chapters judged best. Judging is based on the original plan, a field evaluation during the growing season and the chapter's final report. Emphasis is on use of the demonstration to teach improved farming practices.

Two demonstrations will illustrate weed control in corn. Others will compare oat varieties and show the value of proper fertilization of oats, pasture and hay.

The demonstration committee includes Paul Taber, in charge of the Crop Demonstration program for G.L.F.; Henry W. Staiger, area FFA adviser; Bert Straw, Potter County agricultural agent, and Harold A. Sweet, G.L.F. technical service field man for northwest Pennsylvania and western New York.

Associations to Make Secretaryship Changes

SPOKANE, WASH.—Pete Stallcop, secretary of the Pacific Northwest Grain Dealers Association, Inc., for the past 10 years, has resigned his position, effective June 30.

Mr. Stallcop will be succeeded by Merrill D. Sather, who has been secretary of the Pacific Northwest Crop Improvement Assn. with headquarters in Walla Walla.

Mr. Stallcop has accepted a position as secretary of the Northwest Country Elevator Assn. and the Minneapolis Terminal Elevator Assn. with headquarters in the Grain Exchange Bldg. in Minneapolis. Territory in the associations' jurisdiction includes Minnesota, North and South Dakota and Montana.

Mr. Sather is a graduate in agronomy of Oregon State College. He had been with the Oregon extension service for 4½ years in seed certification work prior to joining the Pacific Northwest Crop Improvement Assn.

In his new position Mr. Stallcop will fill the position presently held by L. C. Webster, a former secretary of the Minneapolis organizations who was called back to duty when Lloyd N. Case took a position with the U.S. Department of Agriculture last year. Mr. Case's tour of duty in Washington was continued longer than he had expected, and just recently he was promoted to director of the grain branch, Commodity Stabilization Service.

FIELD DAY

MANHATTAN, KANSAS—The annual dairy and spring agronomy field day at the Mound Valley Branch Experiment Station in southeast Kansas has been scheduled for May 25.

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CAROLINAS-VIRGINIA

(Continued from page 1)

it-yourself' gardener and the green thumb housewife," Mr. Carter declared. He added that the labels need to be more explicit in terms of what the product will do and not do so there might be less confusion at the customer level.

Salesmen in the pesticide field were urged by Mr. Carter to "sell from the heart" and to believe in the products being offered. He warned against price cutting, stating that this should be done only under the most dire circumstances. Competition is always present, he reminded, and added that "no one knows this better than does the salesman." The sales personnel is one of the main gears that keeps the business wheels turning, he added, and these people must be versatile and alert to new trends which may have an effect on business later.

"Why do customers buy?" he asked. He then answered by stating that any product purchased must fill a need and do something for the buyer. This must be kept in mind by the salesman who should be thinking in terms of the customer's viewpoint rather than his own. "A sale is not completed until the customer is completely satisfied and returns to make further purchases," Mr. Carter emphasized. He added that there are not many businesses that can keep going without a good percentage of repeat purchases by regular customers.

In the pesticide trade, as well as in other lines of business, the customer must be made aware of his need for what the seller has to offer. The salesman must be positive in his sales approach and not plant the seed of doubt in the customers' minds by saying "I think" the product is good. He must be sure of it and not give the customer an opportunity to say "no".

Kenneth R. Holden, Chemagro Corp., Orlando, Fla., gave a bird's-eye view of factors involved in developing new chemical compounds for agricultural use. He declared that new discoveries of pesticidal materials inevitably bring up new problems. Because of this, "research people will never be out of work," but rather, will continue seeking new combinations of chemicals for the control of insects, weeds and plant diseases.

In reviewing the steps taken in the development of a pesticidal chemical, Mr. Holden declared that nearly five years is usually required to put a material on the market, and nearly a million dollars will of necessity be poured into such a project before its backers can possibly realize a cent from it.

The variables involved in producing a pesticidal chemical are almost infinite, he said, even after it has been established that a given compound has properties of insecticidal, fungicidal or herbicidal activity. After this has been indicated, the compound then goes back to the chemist who determines whether it can be reproduced in the laboratory. If so, further tests are made.

Subsequent hurdles in the path of a successful place on the market, include those of obtaining patents, field testing, and determining its mode of action. Is the material a systemic, a stomach poison for insects, or can the material kill plant pests by contact? Does it have herbicidal action against unwanted weed species?

Mr. Holden explained that a product might fail at any point along the line, but assuming it has survived all of these preceding tests, it still has a long way to go. Consideration must be made of the product's toxic properties and its residue history. Will it possibly

harm the plant while killing the bugs?

Can the product be made in a pilot plant in less than commercial quantities?

Can it be made economically so that the end product might compete successfully against existing competitors, pricewise? If the compound passes the economic test, how about its chemical nature? Will it be compatible with other materials with which it may have to be combined later?

Formulation, he said, is of utmost importance, since it is this phase of the process that can make or break a given material. Will ordinary formulation processes produce a product that will store well, "without eating the bottom out of the container?" Will it freeze or run into other troubles in different climates?

Upon clearing all of these tests, the candidate product must then be subjected to studies to determine methods of analysis of residues on plants, where the material will be used and on what crops. At last, with all information complete, the data are turned over to the U.S. Department of Agriculture and the Food & Drug Administration for the setting of residue tolerances.

In a discourse on "Sound Cost Accounting Practices," Wayne T. Showalter, certified public accountant who operates his own firm at Columbia, S.C., warned the association members that too great costs in unknown, concentrated areas can make a business fail, and urged his listeners to take an objective look at their own business setups with an eye to discovering any such point of unusual stress.

"There is a new realism in accounting for costs," he said. "It is referred to as direct product costing, and simply tells how much it costs to place a given product in the hands of customers." Specific items of cost should be enumerated in setting up an outline of operations, since generalities are "less than worthless." Having assembled the facts, it then can become apparent where excessive costs may be.

Areas where such conditions may be found were mentioned as labor, overhead, training expenses, executive supervision and selling expenses.

Labor, he said, should be kept at a minimum to get a specific job done, and any excessive number of workers involved should be scrutinized carefully. Overtime should be discouraged not only as an expense, but also from the standpoint of its being done inefficiently while the employee is fatigued.

Under the costs of overhead, Mr. Showalter mentioned the expense of lights, heat, power, insurance and indirect labor costs. Under selling expenses should be listed advertising, traveling, telephones and convention attendance. All of these items must be figured into the cost of a product, he reminded the formulators present.

"How do we take into consideration all of these vital elements?" he asked. "There must be a careful erection of cost centers at every point in the lifestream of the business. Not only in the production end, but also such abstract cost realities as losses in reciprocity buying."

One of the first necessities in correcting situations where excessive expense is involved, is to recognize their presence in the business setup. "The controlling of costs is everybody's business and should be approached with an attitude of humility and seriousness," he said. He then added that a sound businessman has a difficult time competing with another

firm which is going broke through cutting of prices.

The availability of new emulsifiers which permit the incorporation of various insecticides in complete liquid fertilizers was described by Theodore Reideburg, Reideburg & Associates, New York. The use of liquid fertilizers, prevalent in the West and other parts of the U.S., is also creating interest in the southeastern states, Mr. Reideburg told the group. The possibility of mixing any one of a number of liquid insecticides with complete liquid fertilizers containing nitrogen, phosphoric acid and potash, was described by Mr. Reideburg as holding sales possibilities for the formulators in the Carolinas and Virginia.

In the interest of increasing interest in entomology in the three states represented by the association, the CVPFA voted to allocate \$100 each to the states of South Carolina, North Carolina and Virginia, for the furtherance of the entomological work of the 4-H clubs in these areas.

Following a closed business session on May 8, attended by CVPFA members only, the association announced that the members present at the meeting had approved unanimously a resolution censuring certain unnamed suppliers for pricing policies which the association alleges place its members at a disadvantage, saleswise.

The association's statement, issued to the press was worded as follows:

"At the spring meeting of the Carolinas-Virginia Pesticide Formulators Assn., held at Myrtle Beach, S.C., May 7-9, the following resolution was approved unanimously by the voting membership present at the meeting:

"Whereas: It is evident that certain advantages are not being extended to the members of this association by certain producers of basic raw materials, and

"Whereas: Substantial discounts are enjoyed by certain firms producing finished products from the same basic chemicals, and

"Whereas: The firms enjoying these discounts are, for all practical purposes, competing with members of this association in the same territories, at the same trade levels, with materials containing the same technical ingredients, now

"Therefore: Be it resolved that this association vigorously protest these price inequities and forthwith request an investigation of such practices by proper authorities."

Officers of the association are: W. P. Crown, Carolina Chemicals, Inc., West Columbia, S.C., president; J. Myron Maxwell, Maxwell Insecticide Co., Raleigh, N.C., vice president; George Simches, Planters Chemical Corp., Norfolk, Va., vice president; and W. R. Peele, W. R. Peele Co., Inc., Raleigh, N.C., secretary-treasurer.

Mr. Simches was appointed by the group to fill out the unexpired term of J. B. Maddrey, Planters Chemical Co., who resigned because of ill health.

Texas Tonnage Dips In Last Half of 1955

ABILENE, TEXAS—Fertilizer sales in Texas during the last half of 1955 were the second lowest for the period since 1950, according to Dr. J. F. Fudge, state chemist. Sales during this six months period amounted to 193,704 tons of all varieties, a decrease of 19,180 tons from the same period in 1954.

Despite the decrease in sales volume, Dr. Fudge said the net tonnage of primary components used last fall was greater than ever before. Increases in concentration of plant food occurred in both mixed goods and materials. Sales of 5-10-0 were 22% lower than in 1954, but sales of 10-20-0 were more than 80% higher.

American Potash Sales, Earnings Show Increase

LOS ANGELES—Sales and earnings of American Potash & Chemical Corp. in the first quarter of 1956 were substantially higher than in the comparable period last year, Peter C. Fax, president, reported at a recent stockholders' meeting in New York. Net sales for the three months ended March 31, 1956, totaled \$9,400,000 compared with \$6,751,000 in the first 1955 quarter.

Net income after all charges, including provision for federal taxes income, amounted to \$1,194,908 the first three months of 1956. This was equal, after deducting preferred dividend requirements, to \$1.74 share on the 653,751 shares of Class A and Class B stock outstanding March 31.

For the opening quarter of 1956 net income was \$836,634, equal after preferred dividends to \$1.33 a share on the 585,063 shares of stock outstanding on March 31, 1955.

Shareholders of the firm reelected all directors of the company for the ensuing year.

Shareholders also voted to split Class A and Class B stocks two and one half for one and to increase the authorized number of such shares from 1,000,000 to 3,000,000. The name of the Class B stock also was changed to common stock.

Following the annual meeting, the board of directors declared quarterly dividends of 25¢ a share on the stock, equivalent to the 62½¢ paid previously on the old Class A and Class B shares. The regular \$1 quarterly dividend on the \$4 cumulative preferred stock, Series A, also was declared. All dividends are payable June 29 to shareholders of record June 15.

J. W. Britton to Devote Full Time to Ag Chemicals at Dow

MIDLAND, MICH.—J. W. Britton has relinquished his duties as a departmental production manager in the Dow Chemical Co.'s Midland division to devote full time to company-wide responsibilities as manager of agricultural chemicals. He had held the production post since 1944.

Succeeding Mr. Britton as departmental production manager is Ralph F. Prescott who will also replace him as a member of the Midland division operating board. Mr. Prescott has served as assistant production manager since 1949.

As a production manager, Mr. Britton headed production of a group of organic and agricultural chemicals and latexes for the past 12 years. He has also been manager of agricultural chemicals for the past seven years.

The new arrangement will enable him to give full attention to increasing administrative duties brought about by a three-fold increase in agricultural chemicals sales over the past six years as well as a steadily expanding research and development program in the agricultural chemicals section, Dow said.

Fertilizer Increases Meat Production in California Experiments

SACRAMENTO—An average of 125 lb. of extra meat per acre was obtained through use of commercial fertilizer applications, results of tests carried out in 10 fields in Solano County, California, show.

Arthur K. Swenerton, county farm adviser, said fertilized fields provided 126 grazing days per acre as compared to only 58 on the control field.

Control fields produced an average of 72 lb. of meat while those fertilized produced 197 lb., nearly three times as much.

Senate Committee Passes Farm Bill; Soil Bank Retained

WASHINGTON — Last week the Senate Agriculture Committee tinkered further with the House passed bill and reported its own version of the measure. This probably will come up for the floor action in the senior chamber this week.

The soil bank was adopted in the Senate committee in the same form it passed the House. This bans advance payments on soil bank participation this year for contracts covering the 1957 crops.

However, the soil bank would be effective this year on such crop acreage as farmers may choose to plow. Top farm leaders in the Senate say this as unlikely since before any bank payments can be made it will be necessary for the U.S. Department of Agriculture to measure up all farms growing oats, rye, barley and grain sorghums and issue allotments for each. USDA officials say consequently it will be physically impossible for the soil bank to be made operative this year.

The Senate committee version raises level of small grain support at 5% of parity.

The Senate modified the support level for corn grown in the non-commercial Corn Belt fixing its level at 15% of parity or about \$1.33 bu.

In this period of uncertainty this point seems assured—the Corn Belt will not be faced with corn selling below \$1 bu. at country points as it has in this past marketing year. Here is an industry target which offsets the recent unfavorable news which has been induced through congressional delays in formulating legislation and the very unfavorable cold weather conditions which have existed—not to underestimate the thinning farm pocket-books.

Albert E. Forster to Receive Research Award

NEW YORK — Albert E. Forster, president and chairman of the board of Hercules Powder Co., Wilmington, Del., has been named recipient of the 56th Memorial Award of the Chemical Market Research Assn. for his contributions to market research in the chemical industry.

The award will be presented to Mr. Forster at a dinner meeting to be held May 23 in the Biltmore Hotel, New York City, at the conclusion of a two-day convention attended by more than four hundred members of the Chemical Market Research Assn. The award will be given to Mr. Forster by Charles P. Neidig, president of the association.

Wins Herty Medal

ATLANTA—Dr. Mahlon P. Etheridge, dean of the school of Science, Mississippi State College, has been named winner of the Herty Medal by the Georgia Section of the American Chemical Society. Active in many activities of control officials, Dr. Etheridge currently is president of the Association of American Fertilizer Control Officials and vice president of the Association of Official Agricultural Chemists.

NEW DOW OFFICE

ST. LOUIS—The Dow Chemical Co.'s St. Louis sales office has occupied new quarters in a recently completed office building in suburban Clayton, it is announced by Donald Williams, vice president and director of sales. It is located at 10 S. Brentwood Blvd., St. Louis 5. The former office quarters were at 3615 Olive St. The new office is Glenn H. Neal, a veteran of 32 years with

MEDFLY

(Continued from page 1)

of the USDA Agricultural Research Service. Others joining in the quarantine decision include the National Plant Board, the Florida Citrus Mutual, the Florida Citrus Commission, the Florida Fruit and Vegetable Assn. and members of Congress.

The infested area now identified by USDA observers—without confirmation from the USDA Agricultural Research Service trap tests—includes a 20 square mile area in Dade County and in limited areas of Broward County near Fort Lauderdale and a small community south of Fort Lauderdale.

Reporting on a session here last week of interested parties to this Medfly infestation, USDA said in brief as follows:

"Ed L. Ayers, representing the Florida State Plant Board, emphasized that Florida has already imposed state regulations to prevent the spread of the pest from known infested areas, and stated that the board is 'very much in favor of a federal quarantine' to strengthen and support state action.

"Several of Florida's state and grower representatives, including Mr. Ayers, also appealed for more thorough inspection of incoming foreign baggage and products. Mr. Ayers pointed out that the Dade County infestation straddles the Miami International Airport. He believes there is a great likelihood that the insect was brought into the U.S. at this point.

"Speaking for the National Plant Board, R. B. Colmar, chairman, requested an immediate and adequate federal quarantine and a federally supported program with an objective of complete elimination of the Mediterranean fruit fly from the U.S.

"Robert Rutledge, general manager of the Florida Citrus Mutual, Lakeland, an organization representing 87% of the state's citrus producers, reaffirmed the need for a federal quarantine and for more thorough inspection of foreign baggage and products entering the state.

"Luther Chandler, avocado grower and spokesman for the Florida Fruit (avocados, limes, and mangoes) and Vegetable Assn., representing 75% of the state's vegetable growers, also strongly endorsed the proposed federal quarantine."

William A. Clark in New Monsanto Post

ST. LOUIS — William A. Clark of St. Louis has been appointed senior marketing research analyst for Monsanto Chemical Co., it has been announced by Edmund Greene, Monsanto's director of marketing research.

Mr. Clark now holds a similar position with the company's Organic Chemicals Division here. In his new position, which he will assume on June 1, he will be responsible for assembling information for the company's business forecasts and will consult with the company's operating divisions on marketing research data as it relates to advertising strategy and evaluation.

R. U. Haslanger Elected Director Of Escambia Bay

CAMBRIDGE, MASS. — Escambia Bay Chemical Corp. has elected R. U. Haslanger, vice president and general manager to the board of directors.

The company produces ammonia and nitrogen fertilizer materials at its Pensacola, Fla. plant. At this site a 30 million pound polyvinyl chloride resins plant is now under construction and will be completed late this fall.

Rain, Wet Fields, Insects Plague Mid-South Farmers

MEMPHIS—Rains, wet fields and attacks from army and cutworms plagued farmers in the Mid-South last week.

Extension officials of Arkansas, Mississippi, Missouri and Tennessee said in their weekly report that weather halted field work and that insects caused considerable damage to crops.

Cotton planting is almost completed in most areas, but some of the early cotton is spotted and beginning to turn yellow because of the cold, damp weather.

Wet land brought planting and cultivating activity to a standstill in much of Mississippi during the past week, according to the Mississippi Agricultural Extension Service.

Cotton planting neared completion before rains set in, but some stands are spotty and showing a yellowish color.

Insect troubles plagued the Delta farmer especially as army worms began attacking small grain crops and cutworms took their toll from cotton, corn and young soybeans, according to A. G. Bennett, extension entomologist.

He urged farmers to check fields and if insects are present in damaging numbers to poison immediately.

Rain slowed Arkansas farmers, but it was needed in many areas, reported the Agricultural Extension Service.

Extension spokesmen said despite the slowdown, cotton planting was up to 75% complete in some cotton-producing areas.

More than half the cotton acreage has been planted in Greene, Lawrence, Poinsett, Crittenden, Cross, Phillips and South Mississippi counties, Kenneth S. Bates at Little Rock, assistant director of the Extension Service there, said.

Mr. Bates said in some counties, cotton was up to good stands, although he said reports indicated that there had been only about 15% of the acreage planted in Jefferson, Lincoln and Woodruff counties.

Rice seeding got into full swing and is about 75% completed in Chicot County, about "half completed" in Arkansas and Jefferson counties.

Rain stopped cotton and corn planting in West Tennessee, but caused no distress to farmers in general.

A "pretty stand" of newly planted cotton in Southeast Missouri was reported by extension officials.

W. F. James, Pemiscott County agent, said cotton in the area is coming up with good results. He reported only a few farmers, who had planted earlier, were forced to re-plant crops.

Rain Brightens Texas Crop Outlook

ABILENE, TEXAS — Recent lake-filling rains throughout much of Texas have brightened crop prospects for farmers and enabled many of them to plant cotton and feed crops.

In north central Texas rains have greatly benefited grain crops and helped range conditions. In the Gulf Coast area, about 80% of the rice crops have been planted, though farmers in some sections are now replanting.

In the West Texas irrigated areas, rains helped give young crops a boost and enabled farmers to rest their irrigation wells a few days.

Several dry areas still remain in the state, particularly in parts of West Texas outside the irrigation areas. Farmers got enough showers to finish plowing their land but not enough for planting. They can plant cotton in this section up till June 20, but most of them prefer to get the seed in the ground during May.



M. G. Woodward

M. G. Woodward Named Director of Southern Nitrogen

NEW YORK — M. G. Woodward, treasurer and controller of Southern Nitrogen Co., Inc., has been elected a director of the firm, John R. Riley, president, has announced. Southern Nitrogen is presently constructing a \$14,000,000 petro-chemicals plant at Savannah, Ga., to produce, in early 1957, 250 tons per day of ammonia used to make nitrogen solutions and ammonium nitrate for fertilizers.

Mr. Woodward was named treasurer and controller in December, 1955. Prior to that, from 1952 to 1955 he had been executive assistant to Nathan W. Levin, financial consultant to the heirs of Julius Rosenwald. From 1948 to 1952, Mr. Woodward was financial assistant to Joseph P. Kennedy, former ambassador to the Court of St. James. He acted as treasurer and controller of various Kennedy family investment activities.

Tolerance Set For Pyrethrins, Piperonyl Butoxide

NEW YORK — R. H. F. Dade, manager, Fairfield Chemical Division, Food Machinery and Chemical Corp., has announced that tolerances for piperonyl butoxide and pyrethrins, the active ingredients of Pyrenone grain protectants, have been established by the Food and Drug Administration under the Miller Amendment.

These tolerances, to become effective July 22, will be 20 ppm for piperonyl butoxide and 3 ppm for pyrethrins. Approval has been granted for application of these materials, in either powder or liquid form, to stored wheat, corn (including popcorn), rice, rye and barley at these tolerance levels.

Michigan Chemical Earnings Show Gain

ST. LOUIS, MICH. — Michigan Chemical Corp. has announced earnings of \$52,363 for the first quarter of 1956 as compared to \$33,250 for the similar period of 1955, a gain of 57%.

Sales for the first quarter, which normally is a low period in sales and income, were \$1,489,282 for 1956 against \$1,588,629. The earnings a share on the 537,077 shares of common stock outstanding were \$0.10 for 1956 and \$0.06 for 1955.

DEAN RESIGNS

STATE COLLEGE, N.M. — Dr. R. A. Nichols, dean and director of agriculture and home economics at New Mexico A&M College, has resigned to accept the post of agricultural attache to the U.S. Embassy in Buenos Aires, Argentina.

Croplife

A WEEKLY NEWSPAPER FOR THE FARM CHEMICAL INDUSTRY

The regional circulation of this issue is concentrated in the Northeastern states.

Bankers Need Instruction On Fertilizer Economics

Bankers around agricultural areas have been informed in a general way about the favorable economics involved in the use of recommended amounts of fertilizer materials for farmers, but frequently these money-lenders need to be shown specific examples where generous application of plant food has paid off abundantly. It has been pointed out before in these columns, that the logical person to take the banker by the hand and bend his ear, (not to mix metaphors) is the dealer who has plant food and insecticides for sale.

There is a great advantage in keeping money-lenders up to date on what is developing in agricultural economics. True, bankers, as well as all other citizens, are hearing continually all kinds of economic "facts," twisted and otherwise, from politicians as convention times approach. But we think that the local dealer can do a great deal toward helping himself to larger sales volume by keeping in constant touch with his banker.

During the summer months, it would be a good investment of time on the part of the dealer, to go in and see the banker and remind him of the potential profit there is to be made through the increased use of fertilizer on farms in the trading area. The banker should be apprised of the amounts of operating capital being used by farmers for plant food and what this means to their income. The point should be emphasized that when investments are made in fertilizers, the returns are practically always favorable. This is particularly true when it is necessary to reduce unit costs by getting greater yields from fewer acres.

Probably the most effective means of impressing any luke-warm lender, would be to visit with him at the farms of leading fertilizer users and allow the farmers themselves to describe the results of adequate use of plant food. These growers, with money-making experience, can tell a convincing story even more effectively than the dealer might be able to alone.

Some dealers have also found it desirable to go with certain of their farmer-customers to the bank at the time application is made for a loan, just to help put the idea over.

The question is bound to arise, asking why a banker, brought up in a farming community and quite well acquainted with agricultural practices, should need any special educational treatment to teach him about the special virtues of fertilizers.

Probably he knows that "fertilization pays," but what he may not know, is that much greater profits may be obtained from using recommended rates of application, rather than the relatively small amounts too commonly applied. The bankers' knowledge of modern farming practices may date back a number of years, and in the meantime technical and economic progress has been made. One of the most significant advances concerns the economics involved in the use of plant food to cut unit costs of production, and the lending institutions financing agricultural projects should be kept informed of this.

Naturally, the dealer must not regard bank loans as a cure-all for his sales problems. Loans should not be made in cases where good results are not likely to be realized, lest everyone involved might lose... the farmer, the banker and the dealer himself. The dealer and the banker should each know enough about the individual farming practices of the community to recognize whether or not the type of fertilizer being used, the quantity and the cropping practices, are going to produce good results.

Since the dealer would presumably have more

intimate access to this type of information, it is somewhat up to him to pass this knowledge on to the banker.

Utilization of the summer months for this type of endeavor seems well worth the doing. It is the type of cultivation that may bring surprising results over a period of years.

Food and Drug Observes Fiftieth Anniversary

Not many people active today in the agricultural chemical field were working in this business when the original Federal Food and Drugs Act and Meat Inspection Act were signed into being by President Theodore Roosevelt in 1906. But it is a safe bet to say that everyone in the field today is well acquainted with the modern Federal Food, Drug and Cosmetic Act which governs much of the interstate operations of the trades within the industry.

Next month, the industries in the food, drug, chemical and cosmetics fields are joining with enforcement officials and consumer groups in various commemorative events to mark the 50th anniversary of the beginning of the law.

Over the years, the law has gone through quite an evolution. It has had to alter its provisions and expand in scope to keep up with the profound changes that have taken place in the fields it covers. The enactment of the Miller amendment, for instance, offering a more streamlined way of establishing tolerances for agricultural pesticides, is a well-known example of how the law keeps up to date.

The original "Food and Drugs Act of 1906," generally conceded to be the lifetime achievement of Dr. Harvey W. Wiley, has been called "the most significant peacetime legislation in the history of the country." Its provisions touch more Americans than any other law, providing them protection from cradle to grave in everything they consume both during good health and in illness.

Dr. George P. Larrick, commissioner of the Food and Drug Administration has stated the purpose of the 50th anniversary celebration to be:

1. To further public understanding of the food and drug laws.
2. To inform the public of the laws' benefits to both industry and the consumers.
3. To give public recognition to the industries which have made food, drugs, chemicals and cosmetics the best in the world.
4. Through public education to further strengthen the effectiveness of the food and drug measures at all levels of regulation.

The government has recognized the importance of the anniversary, which is completely national in scope, by scheduling the issuance of 110 million commemorative stamps on June 27. On that date, day-long national ceremonies in Washington will call attention to the Acts of 1906 and subsequent pure food, drug and cosmetic laws.

Congressman J. Percy Priest has introduced into Congress a joint resolution requesting President Eisenhower to set aside the week beginning June 24 as one to commemorate the Pure Food, Drugs and Cosmetic Laws and the Meat Inspection Act. Governor Robert B. Meyner of New Jersey has proclaimed a "New Jersey Food and Drug Law Week"; other governors have also announced their intentions to make such proclamations, and still others may follow suit.

Other means adopted for carrying the message of "50 Years of Pure Food and Drugs" are a slogan postmark for private postage meters, a mail cancellation postmark carrying the message from thousands of local post offices, a birthday seal for use in advertising, correspondence and on packages, and an educational brochure for widespread popular distribution.



Croplife



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CROPLIFE is a controlled circulation journal published weekly. Weekly distribution of each issue is made to the fertilizer manufacturers, pesticide formulators and basic chemical manufacturers. In addition, the dealer-distributor-farm adviser segment of the agricultural chemical industry is covered on a regional (crop-area) basis with a mailing schedule which covers consecutively, one each week, four geographic regions (Northeast, South, Midwest and West) of the U.S. with one of four regional dealer issues. To those not eligible for this controlled distribution Croplife subscription rate is \$5 for one year (\$8 a year outside the U.S.). Single copy price, 25¢.

LAWRENCE A. LONG

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MEETING MEMOS

May 15—Western Agricultural Chemicals Assn., Spring Meeting, Hotel Clark, Los Angeles, O. O. Barnard, 2466 Kenwood Ave., San Jose, Cal., executive secretary.

May 16-18—Synthetic Organic Chemical Manufacturers Assn., Annual Outing, Skytop, Pa.

May 20-22—42nd Mid-year Meeting, Chemical Specialties Manufacturers Assn., Drake Hotel, Chicago; H. W. Hamilton, secretary, 50 E. 41st St., New York 17.

May 25—Fertilizer Section, Virginia Safety Association, Roanoke Hotel, Roanoke, Va.; W. O. Richardson, Southern States Cooperative, Richmond, program chairman.

June 5-6—North Central Division, American Phytopathological Society, Kansas State College, Manhattan, Kansas.

June 5-7—Annual Fertilizer Tours and Conferences, sponsored by the Alabama Agricultural Experiment Station, in cooperation with the Alabama Soil Fertility Society;

June 5, Crossville and Alexandria; June 6, Auburn; June 7, Headland.

June 10-13—National Plant Food Institute, Annual Convention, the Greenbrier, White Sulphur Springs, W. Va.

June 20-22—Northeast Branch, American Society of Agronomy, Summer Meeting, University of Maryland, College Park, Md.

June 26-28, Pacific Branch, Entomological Society of America, Hotel Claremont, Berkeley, Cal.

June 28-30—Association of Southern Feed & Fertilizer Control Officials, 14th Annual Convention, Hotel Roanoke, Roanoke, Va.; Bruce Poundstone, Kentucky Agricultural Experiment Station, Lexington, Ky., secretary-treasurer.

June 28-30—Seventh Regional Fertilizer Conference of the Pacific Northwest, Chinook Hotel, Yakima, Wash.

June 30—Del-Mar-Va Peninsula Fertilizer Assn., 35th Annual Convention, Hotel George Washington,

Ocean City, Md., F. N. Strudwick, P.O. Box 199, Salisbury, Md., Secretary.

July 12—South Carolina Fertilizer Meeting, Tour of Edisto Experiment Station, Blackville, S.C.

July 19-20—Southwestern Fertilizer Conference and Grade Hearing, Buccaneer Hotel, Galveston, Texas.

July 25-27—Northwest Association of Horticulturists, Entomologists and Plant Pathologists Conference, Northwest Washington Experiment Station, Mount Vernon, Wash.

Aug. 1—Kentucky Fertilizer Conference, Guilford Theatre, University of Kentucky, Lexington, Ky.

Aug. 14-15—Ohio Pesticide Institute, Summer Meeting, Ohio Agricultural Experiment Station, Wooster, Ohio, J. D. Wilson, Wooster, Ohio, Secretary.

Aug. 17-25—Tenth International Congress of Entomology, McGill University and University of Montreal, Montreal, Canada, J. A. Downes, Science Service Bldg., Carling Ave., Ottawa, Ontario, Canada, Congress Secretary.

Aug. 22-24—Beltwide Cotton Mechanization Conference, Atlanta Biltmore, Atlanta, Ga., sponsored by National Cotton Council.

Oct. 15—Fifth Annual Chemical Sales Clinic, Hotel Commodore, New York, Sponsored by the Salesmen's Association of the American Chemical Industry.

Oct. 15—Fifth Annual Chemical Sales Clinic, the Salesmen's Association of the American Chemical Industry; Hotel Commodore, New York City; chairman, Preston F. Tinsley, Westvaco Chlor-Alkali Division, Food Machinery and Chemical Corp., 161 East 42nd St., New York 17, N.Y.

Oct. 16-17—National Nitrogen Solutions Assn., Annual Meeting and Trade Show, City Auditorium, Sioux City, Iowa; John White, Auburn, Neb., secretary.

Nov. 1—Southern Regional Soil Research Committee, Annual Meeting, Atlanta Biltmore Hotel, Atlanta, Ga.

Nov. 2—Work Conference on Research Findings in Agriculture, Atlanta Biltmore Hotel, Atlanta, Ga.

Nov. 11-13—California Fertilizer Assn., 33rd annual convention, Del Coronado Hotel, Coronado, Cal.; Sidney H. Bierly, executive secretary, 475 Huntington Drive, San Marino 9, Cal.

Nov. 19-20—Eastern Branch, Entomological Society of America, Hotel Haddon Hall, Atlantic City, N.J., B. F. Driggers, Rutgers University, New Brunswick, N.J., secretary.

Atlas Powder Sets Up New Departments

WILMINGTON, DEL.—Atlas Powder Co. has set up separate industrial and public relations departments and has named new directors for these functions, it has been announced by Ralph K. Gottshall, president.

Named to head the new industrial relations department is W. Spencer Thompson, formerly manager of Ford Motor Co.'s grievance proceedings department. Director of the new Atlas public relations department will be George Loft, who has been manager of the company's public relations division since 1953.

Previously, these functions were combined in one department headed by Dr. Thomas Kennedy, who is returning to the educational field next September as a professor at the Harvard Graduate School of Business Administration.

FLORIDA CONSUMPTION

TALLAHASSEE, FLA.—Fertilizer use in Florida during March totaled 179,929 tons, according to the state Department of Agriculture. This included 120,460 tons of mixed goods and 59,469 tons of materials.

Classified Ads

Classified advertisements accepted until Tuesday each week for the issue of the following Monday.

Rates: 15¢ per word; minimum charge \$2.25. Situations wanted, 10¢ a word; \$1.50 minimum. Count six words of signature, whether for direct reply or keyed care of this office. If advertisement is keyed, care of this office, 20¢ per insertion additional charged for forwarding replies. Classified advertising rate not available for commercial advertising. Advertisements of new machinery, products and services accepted for insertion at minimum rate of \$9 per column inch. All Want Ads cash with order.

HELP WANTED

AGRICULTURAL SALESMEN

Experienced in selling nitrogen products or other fertilizer materials to fertilizer manufacturers required. Salesmen are expected to become familiar with the technology of ammoniating solution used in mixed fertilizer manufacture. Duties will be to sell the company's nitrogen products to fertilizer manufacturers.

In reply state personal data, education, experience, and salary requirements.

Inquiries held confidential. Address reply to:

SOHIO CHEMICAL COMPANY
Industrial Relations Division
Box 628, Lima, Ohio

BUSINESS OPPORTUNITIES

WE ARE INTERESTED IN OBTAINING a fertilizer plant in Central or South Florida. Box 1162, Little River Station, Miami, Florida.

Over 400 Attend California Convention

LOS ANGELES—More than 400 turned out for the 42nd annual convention of the California Hay, Grain & Feed Dealers Assn., at the Ambassador Hotel in Los Angeles.

The delegates elected officers for the coming year, acted on resolutions, received committee reports and heard talks by a U.S. Department of Agriculture official and others. The convention also featured an extensive program of special events.

The rain which fell was greeted with mixed emotions.

Henry Turner, The Grange Co., Modesto, was elected president for the coming year. He succeeds E. W. Nelson, Snow & Co., South Pasadena.

Charles C. Sander, Western Consumers Feed Co., Paramount, was named vice president.

Elected directors were Mr. Nelson; J. W. Kingsley, Escondido Valley Poultry Assn., Escondido; Herbert H. Johnson, The Quaker Oats Co., Los Angeles; William P. Claypool, Jr., Claypool & Co., San Bernardino; Rae Saltzman, Berger & Plate Co., San Francisco; W. A. Gould, Consolidated Milling Co., San Francisco; Arthur H. DeRaad, DeRaad Warehouse, Lemoore; Dolph B. Hill, Jr., Golden Eagle Milling Co., Petaluma, and Neal Lashlee, Ontario (Cal.) Feed & Milling Co.

Officers completing their terms were Mr. Nelson and R. A. Harelson, William P. Mathews, Foster M. Clark, Howard L. Enos and Leslie W. Sperring, directors.

NORTH CAROLINA SALES

RALEIGH, N.C.—North Carolina fertilizer consumption during March totaled 417,258 tons, compared with 514,314 tons in March, 1955, according to the state Department of Agriculture. Consumption for the first nine months of this fiscal year (July-March) totaled 907,079 tons, compared with 1,089,967 tons in a corresponding period a year earlier.

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A Complete Sales Medium..

CROPLIFE is the only *complete sales medium* directed to the agricultural chemical industry. It is a *weekly* newspaper appealing to all segments of the industry. One of its editorial functions is to knit more closely together all those industry elements—manufacturers, agents, retailers, the educational echelon and farm advisor groups. It does this by:

- Keeping all segments informed of all industry news.
- Providing feature material designed to help manufacturers and mixers to do a better job, to help dealers sell and to help farm advisors and educational people make sound recommendations.
- Keeping all industry alert to current and proposed government action.
- Providing a channel through which news and advertising can reach all segments of the industry.

This new approach to business journalism for the agricultural chemical industry is being made by a company with 80 years of experience in newsgathering and publishing and one which has built an unchallenged reputation for reliability and service. Advertising of your products and services in Croplife will mean *richer sales fields* for you!

National Coverage Weekly . . .

Croplife's carefully controlled circulation provides national weekly coverage of manufacturers, formulators, mixers and ingredient suppliers.

Plus Regional Coverage by Crop-areas . . .

In addition, a unique regional circulation plan provides advertisers with a selective crop-area coverage of wholesale and retail dealers and farm advisory personnel.



In addition to its national coverage, Croplife offers a selective regional circulation plan in these crop-areas

WRITE—WIRE—PHONE our nearest office for a complete analysis of Croplife's important role in your advertising program.

Croplife . . . for richer ^{sales} fields

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MURRAY Hill 2-2185

Minneapolis, 2501 Wayzata Blvd.
FEDERAL 2-0575

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Close 14 Days Preceding

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HARRISON 7-678

Kansas City, 612 Board of Trade Bldg.
VICTOR 2-135